SONY

FM STEREO/FM-AM RECEIVER

STR-AV550
STR-AV650

OPERATING INSTRUCTIONS

Before operating the unit, please read this manual thoroughly and retain it for future reference.

OWNER'S RECORD

The model and serial numbers are located at the rear. Record the these numbers in the space provided below. Refer to these numbers whenever you call upon your Sony dealer regarding this product.

Model No. _____ Serial No. _____

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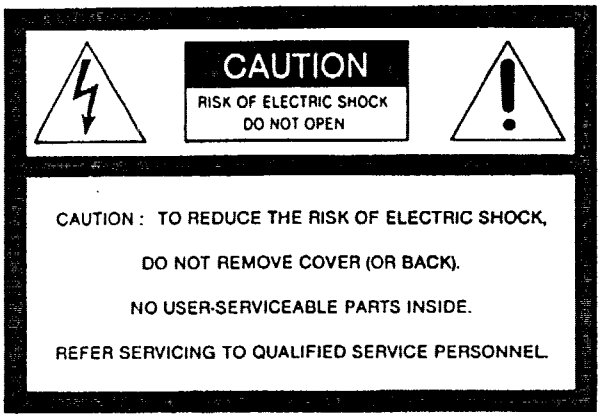
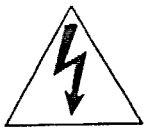
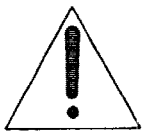
WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.


CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
CAUTION : TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

This instruction manual covers the STR-AV550 and the STR-AV650.
The photos and illustrations used in the manual are of the STR-AV650.
The difference between the two models are shown in the table below.

	STR-AV550	STR-AV650
Front VIDEO 2 INPUT jacks	not equipped	equipped
TV VIDEO IN/AUDIO IN jacks	not equipped	equipped
CATV ANTENNA terminals	not equipped	equipped
Remote commander supplied	RM-S40	RM-U70
Power output	55W	65W

The remote commander is supplied with the unit. For connections and operations of the remote commander, refer to its instruction manual.

CAUTION:
TO PREVENT ELECTRIC SHOCK, DO NOT USE THIS POLARIZED AC PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

FEATURES

The STR-AV550/650 is a combined receiver and audio/video control center. You can listen to various audio/video program sources through the amplifier of the receiver and the speakers connected to it.

- **TV or CATV (STR-AV650 only) programs can be enjoyed with FM simulcast.**
- **Various audio program sources can be added on a video tape during tape editing.**
- **The supplied remote control** allows you to remotely control the connected equipment as well as the receiver.

Tuner
- **Precise tuning** with the quartz-locked digital synthesizer system.
- **A total of 10 FM/AM stations can be preset.**

Others
- **The surround sound system** enhances live atmosphere of the sound.
- **The volume fade-in function** increases the volume gradually from the minimum to a previously set level when the unit is turned on.

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PRECAUTIONS

On safety

- Operate the unit only on 120 V AC, 60 Hz.
- Should any solid object or liquid fall into the cabinet, unplug the unit and have it checked by qualified personnel before operating it any further.
- Unplug the unit from the wall outlet if it is not to be used for an extended period of time. To disconnect the cord, pull it out by grasping the plug. Never pull the cord itself.
- One blade of the plug is wider than the other for the purpose of safety and will fit into the power outlet only one way. If you are unable to insert the plug fully into the outlet, contact your dealer.

On installation

- Do not install the unit in a location near heat sources such as radiators or air ducts, or in a place subject to direct sunlight, excessive dust, mechanical vibration or shock.
- Good air circulation is essential to prevent internal heat build-up in the unit. Place the unit in a location with adequate air circulation. Do not place the unit on a soft surface, such as a rug that would block the ventilation holes on the bottom.
- Do not place anything on top of the cabinet. The top ventilation holes must be unobstructed for the proper operation of the unit and to prolong the life of its components.

On operation

- Before making program source connections, be sure to turn the power switch off and unplug the unit.
- When the unit is not used, turn the power off, to conserve energy and to extend the useful life of your unit.

On cleaning the cabinet

Clean the cabinet, panel and controls with a soft cloth lightly moistened with mild detergent solution. Do not use any type of abrasive pad, scouring powder, or solvent such as alcohol or benzine.

On repacking

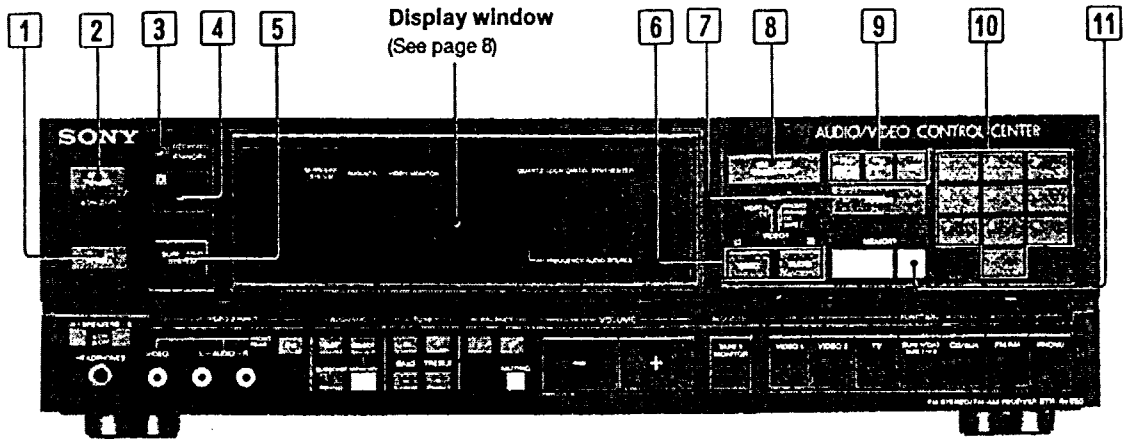
Do not throw away the carton and the packing material. It makes an ideal container to transport the unit in.

For the customers in the United States

For detailed safety precautions, see the "IMPORTANT SAFEGUARDS" leaflet.

LOCATIONS AND FUNCTION OF CONTROLS

FRONT



1 SYSTEM POWER switch
First turn the MAIN POWER switch on, and then press this switch to turn the receiver and the equipment connected to the AC outlet of the receiver on and off.

2 MAIN POWER switch
Depress to turn the main power on.

3 RECEIVED/STANBY Indicator
Lights when the main power is turned on and the system power is turned off.
Blinks when the receiver received the signal from the remote commander.

4 Remote control sensor

5 SURROUND SYSTEM button
When listening to a stereo source, press to enhance stereophonic effect. Press again to disengage the system.

6 EDIT buttons
AUDIO: For recording an audio program source on a video tape or adding sound on a video tape during video tape editing.
VIDEO: For recording TV programs on a video tape or video tape editing. (VCR 2 to VCR 1)

7 TUNING button
Press to scan the frequency coverage.

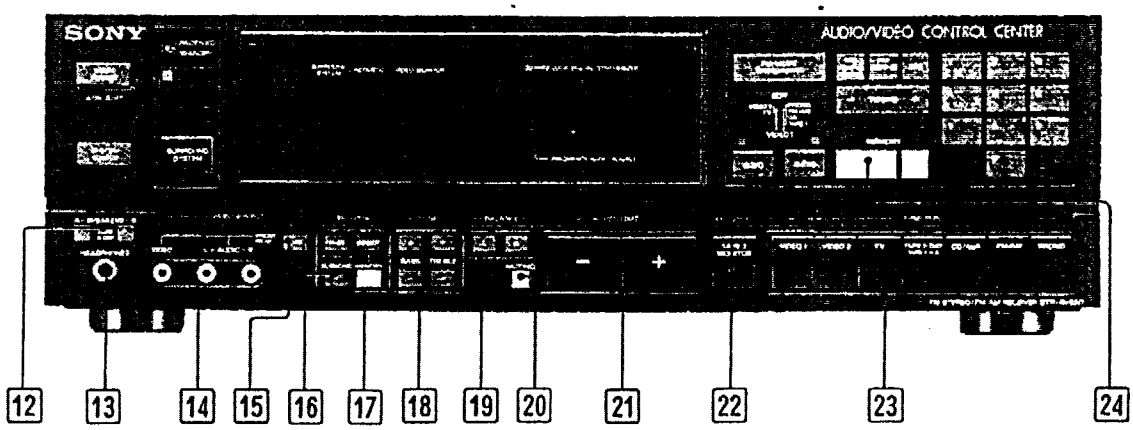
8 FM MODE button
Press to stabilize the reception and reduce the noise when receiving a weak FM station or a noisy FM program. The MONO indicator is displayed and there is no stereo effect. Press it again to resume the stereo mode.
The FM stereo mode will be resumed automatically when the receiving frequency is changed.

9 Band/antenna select buttons (STR-AV650)
FM ANT-A (CATV): For FM broadcast when the FM antenna is connected to the CATV ANT-A connector, or for FM simulcast CATV programs when the CATV cable is connected.
FM ANT-B: For FM broadcast when the FM antenna is connected to the FM ANT-B connector.
AM: For AM broadcast.

Band select buttons (STR-AV550)
FM: For FM broadcast.
AM: For AM broadcast.

10 Number buttons
Press to enter the frequency of the desired station, or to memorize a station and call it up.

11 MEMORY PRESET button
Press to memorize the frequency of a station.



12 SPEAKERS selectors
Depress to select which speaker system to drive. For both speaker systems, depress A and B. For headphones, keep both buttons released.

13 HEADPHONES jack (stereo phone jack)

14 Front VIDEO 2 INPUT jacks (phono jack) (STR-AV650 only)
Connect a portable VCR for playback or TV tuner.

15 F/R (front/rear) VIDEO 2 INPUT select button (STR-AV650 only)
When using the VCR other than that connected to the VIDEO 1 inputs, press it to select which VCR to use, after pressing the VIDEO 2 FUNCTION button.
F: VCR connected to the front VIDEO 2 inputs
R: VCR connected to the rear VIDEO 2 inputs

16 SUBSONIC filter button
Press to reduce unwanted subsonic noise components created by warped records, etc. To disengage the filter, press it again.

17 ACOUSTIC buttons
FLAT: Press to disengage the acoustic setting.
SELECT: Press to memorize or to recall the acoustic setting.
MEMORY: Press to memorize an acoustic setting.

18 BASS and TREBLE TONE control buttons
Control the prominence of bass and treble response.

19 BALANCE control buttons
R: Press to decrease the volume of the left channel or to resume the volume of the right channel.
L: Press to decrease the volume of the right channel or to resume the volume of the left channel.

20 MUTING button
Press to momentarily mute the sound. Press again to restore the same sound level as before.

21 VOLUME control buttons

22 TAPE 2 MONITOR button and indicator
Press the button to listen to taped programs of the tape deck connected to the TAPE 2 inputs. To listen to the other program sources, press it again.

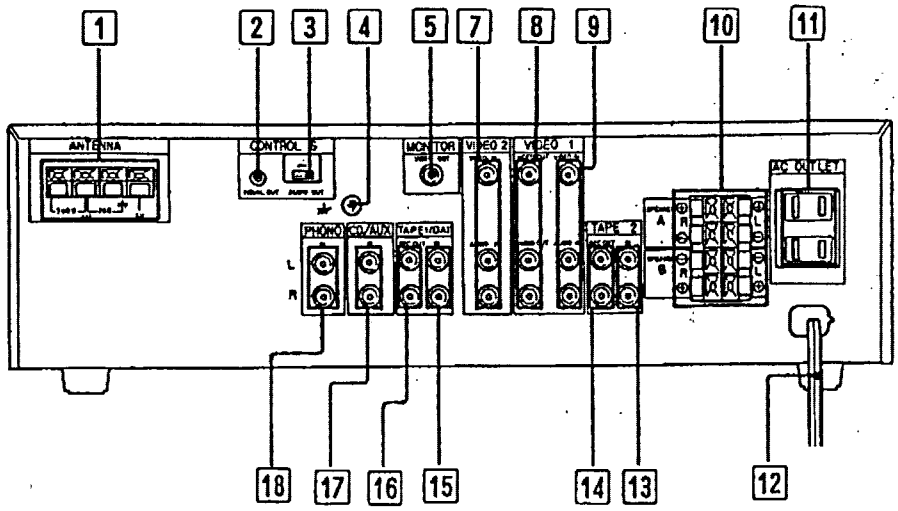
23 FUNCTION buttons
PHONO: For record programs
FM/AM: For broadcasting programs
CD/AUX: For compact disc or auxiliary program sources.
TAPE 1/DAT (TAPE 1 → 2): For taped programs of the tape deck connected to the TAPE 1/DAT inputs, or for audio tape dubbing.
TV (STR-AV650 only): For TV programs from the TV tuner connected to the TV inputs
VIDEO 2: For video programs of the VCR connected to the front (STR-AV650 only) or rear VIDEO 2 inputs
VIDEO 1: For video programs of the VCR connected to the VIDEO 1 inputs

24 MEMORY SCAN button
Press to scan automatically the preset stations.

REAR

For connections, see "Connections" on pages 9 to 20.

STR-AV550



1 ANTENNA terminals
STR-AV550
AM and ⏚ (antenna ground): Connect an AM antenna.
FM: Connect an FM antenna.

STR-AV650
AM and ⏚ (antenna ground): Connect an AM antenna.
CATV ANT-A IN (F-type): Connect an FM antenna or CATV cable.
CATV ANT-A OUT (F-type): This connector supplies the signals connected to the CATV ANT-A IN connector to a VCR, TV tuner or another FM tuner.
FM ANT-B (F-type): Connect an FM antenna.

2 CONTROL S VISUAL OUT jack (minijack)
Used to extend the utility of this unit by providing for the connection of optional Sony video equipment which has CONTROL S IN jack.

3 CONTROL S AUDIO OUT connector (4-pin)
Connect to the CONTROL S IN or REMOTE IN connector of other Sony equipment using a 4-pin flat remote control cord in order to control the audio system using the supplied remote commander.

4 ⏚ (phono ground) terminal
Connect the ground wire of a turntable system.

Note
In some particular MM (moving magnet) type cartridges, the ground for signal is connected to the ground for cartridge body. If this type of cartridge should be installed to a metal cartridge shell, current will flow through the tonearm ground in a loop and will cause hum noise. In this case, disconnect the turntable ground wire from the ⏚ terminal, or disconnect the ground for cartridge body from the ground for signal.

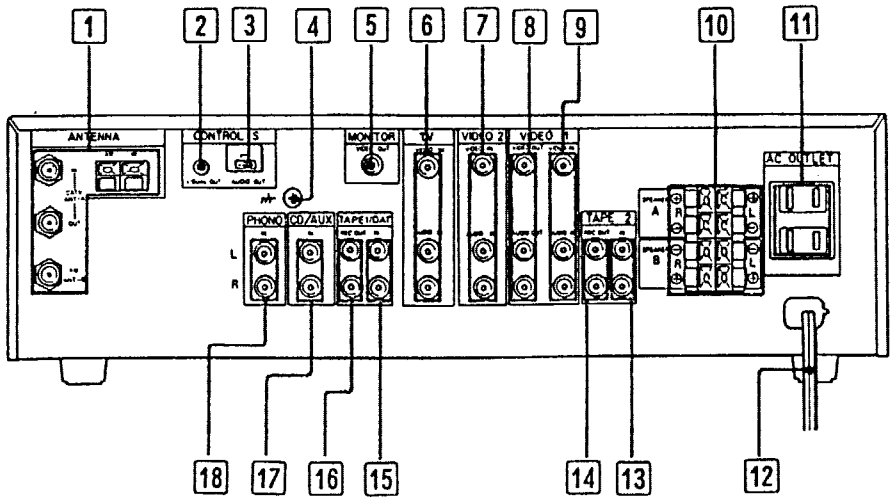
5 MONITOR VIDEO OUT jack (phono jack)
Connect to the video input of a component TV. The video signal selected by the button described below is put out from here.
STR-AV550: VIDEO 1 or VIDEO 2 button
STR-AV650: TV, VIDEO 1 or VIDEO 2 button and F/R button

6 TV VIDEO IN/AUDIO IN jacks (phono jack) (STR-AV650 only)
Connect to the VIDEO/AUDIO OUT jacks of the TV tuner.

7 VIDEO 2 VIDEO IN/AUDIO IN jacks (phono jack)
Connect to the VIDEO/AUDIO OUT jacks of the VCR 2 (for playback only).

8 VIDEO 1 VIDEO OUT/AUDIO OUT jacks (phono jack)
Connect to the VIDEO/AUDIO IN jacks of the VCR 1 (for recording).

STR-AV650



9 VIDEO 1 VIDEO IN/AUDIO IN jacks (phono jack)
Connect to the VIDEO/AUDIO OUT jacks of the VCR 1 (for playback).

10 SPEAKER A, B connectors

11 AC OUTLETs (SWITCHED)
These are used to power other audio components whose power consumption is less than 100W.
These outlets are controlled by the front panel SYSTEM POWER switch.

12 AC power cord

13 TAPE 2 IN jacks (phono jack)
Connect to the LINE OUT jacks of the tape deck 2.

14 TAPE 2 REC OUT jacks (phono jack)
Connect to the LINE IN jacks of the tape deck 2.

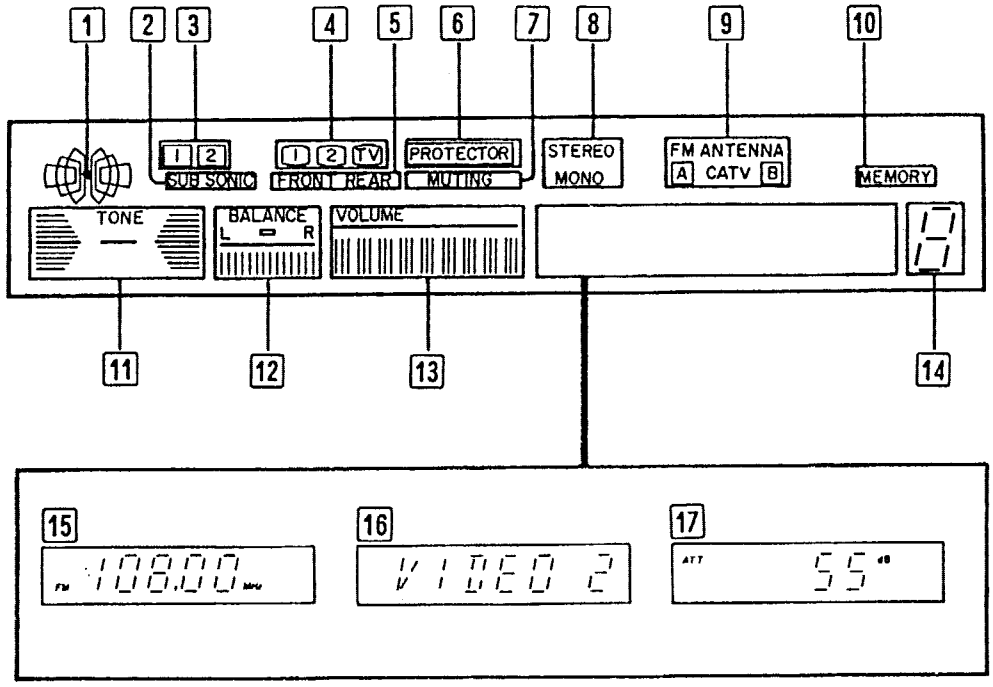
15 TAPE 1/DAT IN jacks (phono jack)
Connect to the LINE OUT jacks of the tape deck 1 or a digital audio tape recorder.

16 TAPE 1/DAT REC OUT jacks (phono jack)
Connect to the LINE IN jacks of the tape deck 1 or a digital audio tape recorder.

17 CD/AUX (compact disc/auxiliary) IN jacks (phono jack)
Connect to the output jacks of a compact disc player or a tape deck for playback.

18 PHONO IN jacks (phono jack)
Connect to the LINE OUT jacks of the turntable system.

DISPLAY WINDOW



1 Surround system indicator
Appears when the SURROUND SYSTEM button is pressed.

2 SUBSONIC indicator
Appears when the SUBSONIC button is pressed.

3 Acoustic memory number indicator
Shows the number of the acoustic setting memory 1, 2 or 3.

4 Video monitor indicator
Shows the picture source monitored on the TV connected to the MONITOR VIDEO OUT.
1: VCR connected to the VIDEO 1 inputs
2: VCR connected to the front (STR-AV650 only) or rear VIDEO 2 inputs
TV (STR-AV650 only): TV program

5 Video 2 input indicator (STR-AV650 only)
Indicates the selected VIDEO 2 input; FRONT or REAR.

6 PROTECTOR indicator
Appears when the protection circuit against a short-circuit is activated.

7 MUTING indicator
Appears when the MUTING button is pressed.

8 FM mode indicator
Indicates the selected FM mode; STEREO or MONO (monaural).

9 FM ANTENNA indicator (STR-AV650 only)
A-CATV: Appears when the FM ANT-A (CATV) button is pressed.
B: Appears when the FM ANT-B button is pressed.

10 MEMORY indicator
Appears when the MEMORY PRESET button is pressed.

11 TONE indicator
Graphically shows the tone control characteristics. A straight bar graph indicates a flat frequency response.

12 BALANCE indicator
Indicates the relative strength of the volume at the left and right speakers.

13 VOLUME indicator

14 Preset number indicator
Indicates the preset channel of the FM/AM stations.

15 Band/frequency display
Indicates the tuned FM/AM station.

16 Function indicator
Indicates the selected function.

17 ATT (attenuator) indicator
When the VOLUME button is pressed, the attenuation level is displayed in dB.

SYSTEM CONNECTIONS

For each connection, refer to the page indicated in the diagram.

Basic connections

FM/AM antenna connection	Pages 18 and 19
CATV cable connection	Page 19
Speaker connection	Page 20
Power source connection	Page 20

System connections

Program source	Equipment to be connected		Page	Purpose
Audio	Turntable system + Tape deck (1 and/or 2) + CD player, etc.		10	• Playback • Recording • Tape dubbing
VCR/TV	Stereo VCR(s) +	Component TV + TV tuner	11	• Playback • Recording • TV programs • Video tape editing
		Conventional TV + TV tuner	13	
	Stereo VCR + Conventional TV		15	• Playback • Recording TV programs
	Monaural VCR		16	• Playback • Recording TV programs • Video tape editing
	Portable stereo VCR		17	• Playback • Video tape editing
Audio and VCR/TV	Both audio and VCR/TV connections above			• Recording audio program sources on a video tape, or vice versa • Adding audio sound on a video tape during editing

Notes on connection

- The power cord should be connected last of all.
- Before connection, be sure to set the MAIN POWER switch to OFF (⏻).
- The connector jacks of the receiver are color-coded as follows:

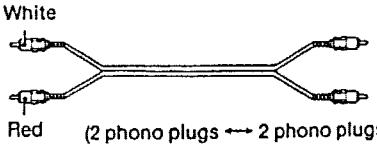
Jack color	Signal to be connected
Red	Right-channel audio
White	Left-channel audio
Yellow	Video

- The cable connectors should be fully inserted into the jacks. A loose connection may cause hum and noise.

Connecting cords

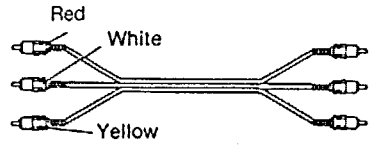
For connection, use the optional connecting cords listed below. The numbers in the diagrams are keyed to those in the list.

❶ Sony RK-74A



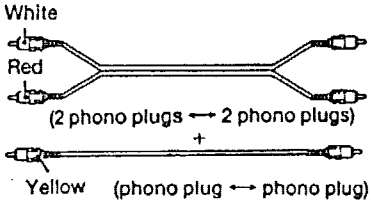
(2 phono plugs ⟷ 2 phono plugs)

❷ Sony VMC-1P3 or VMC-2P3



(3 phono plugs ⟷ 3 phono plugs)

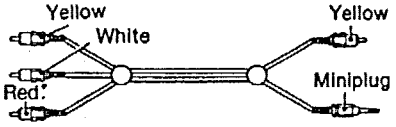
or Sony RK-74A + VMC-1S



❸ Sony VMC-1S

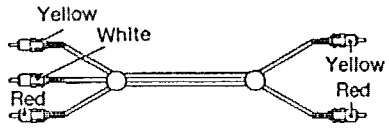
(phono plug ⟷ phono plug)

❹ Sony VMC-1MP3 or VMC-2MP3



(3 phono plugs ⟷ phono plug and miniplug)

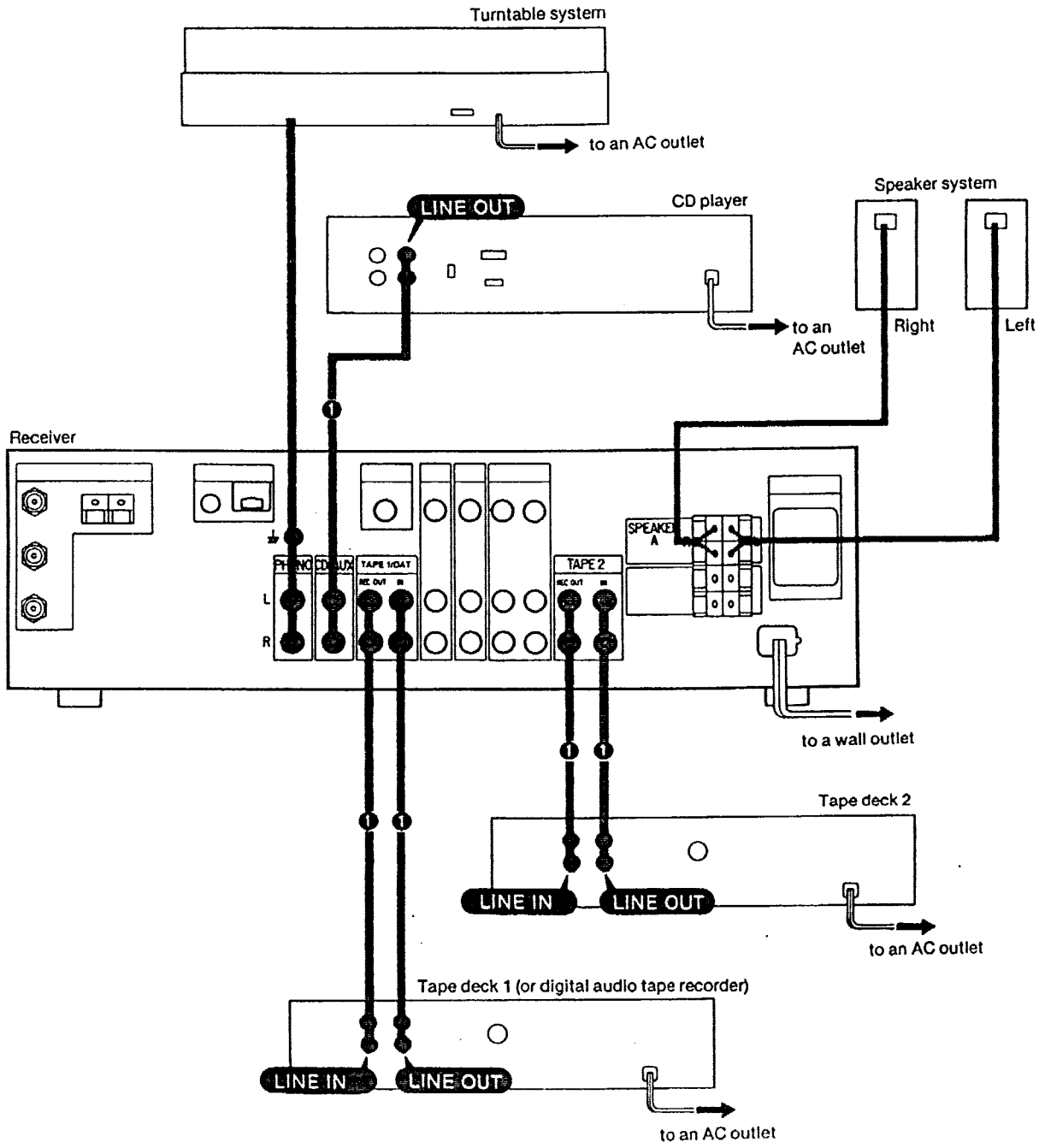
or Sony VMC-608MS or VMC-609MS



(3 phono plugs ⟷ 2 phono plugs)

AUDIO SYSTEM CONNECTION

Turntable + **Tape deck** + **CD player**



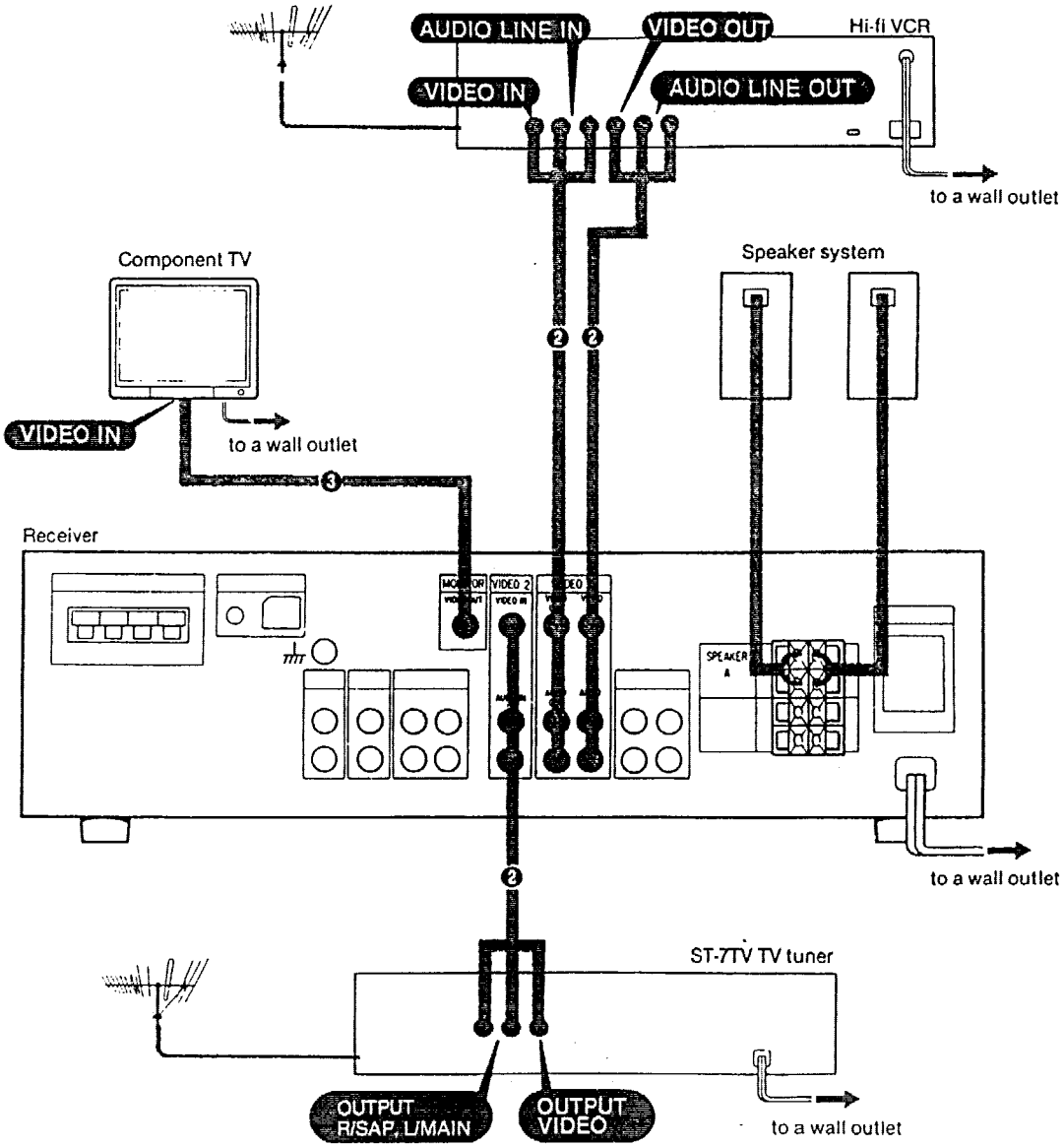
VCR/TV SYSTEM CONNECTION

Before making connections, refer to the instruction manual of the VCR.

Hi-fi VCR(s) + **Component TV** + **TV tuner**

VCR 1 ... for recording and playback
VCR 2 ... for playback only

STR-AV550

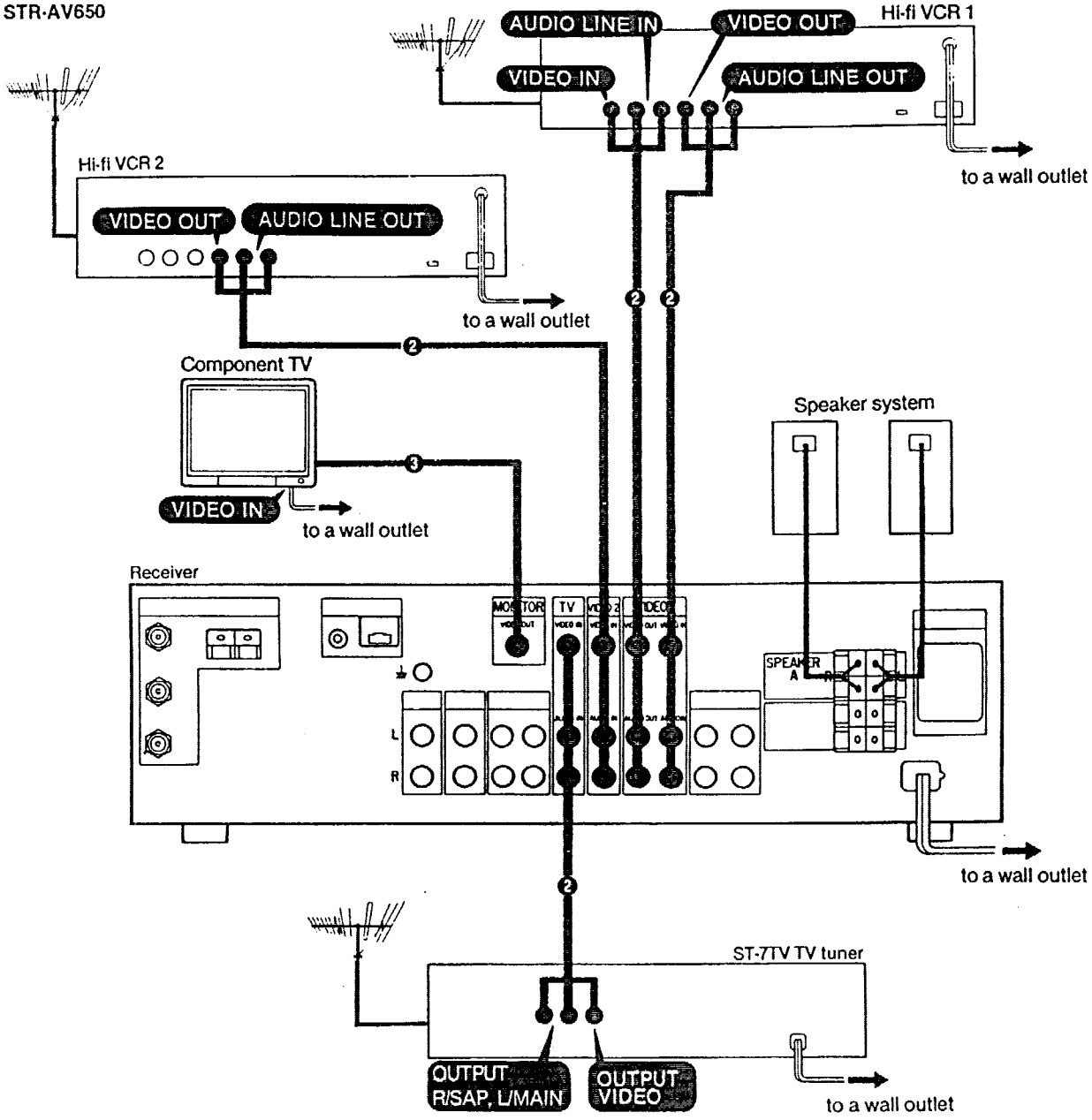


VCR/TV SYSTEM CONNECTION

Hi-fi VCR(s) + Component TV + TV tuner

VCR 1 ... for recording and playback
VCR 2 ... for playback only

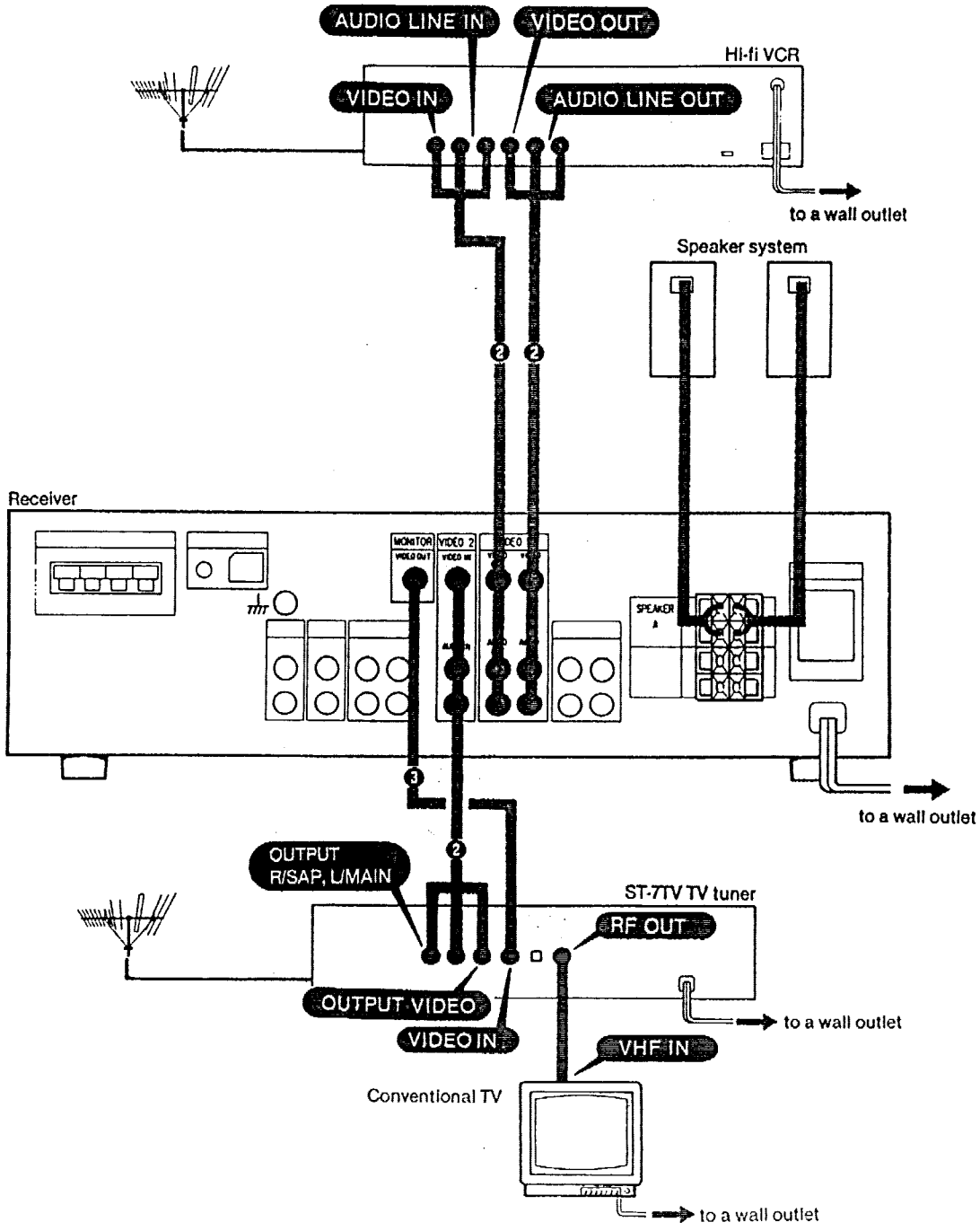
STR-AV650



Hi-fi VCR(s) + **Conventional TV** + **TV tuner**

VCR 1 ... for recording and playback
VCR 2 ... for playback only

STR-AV550

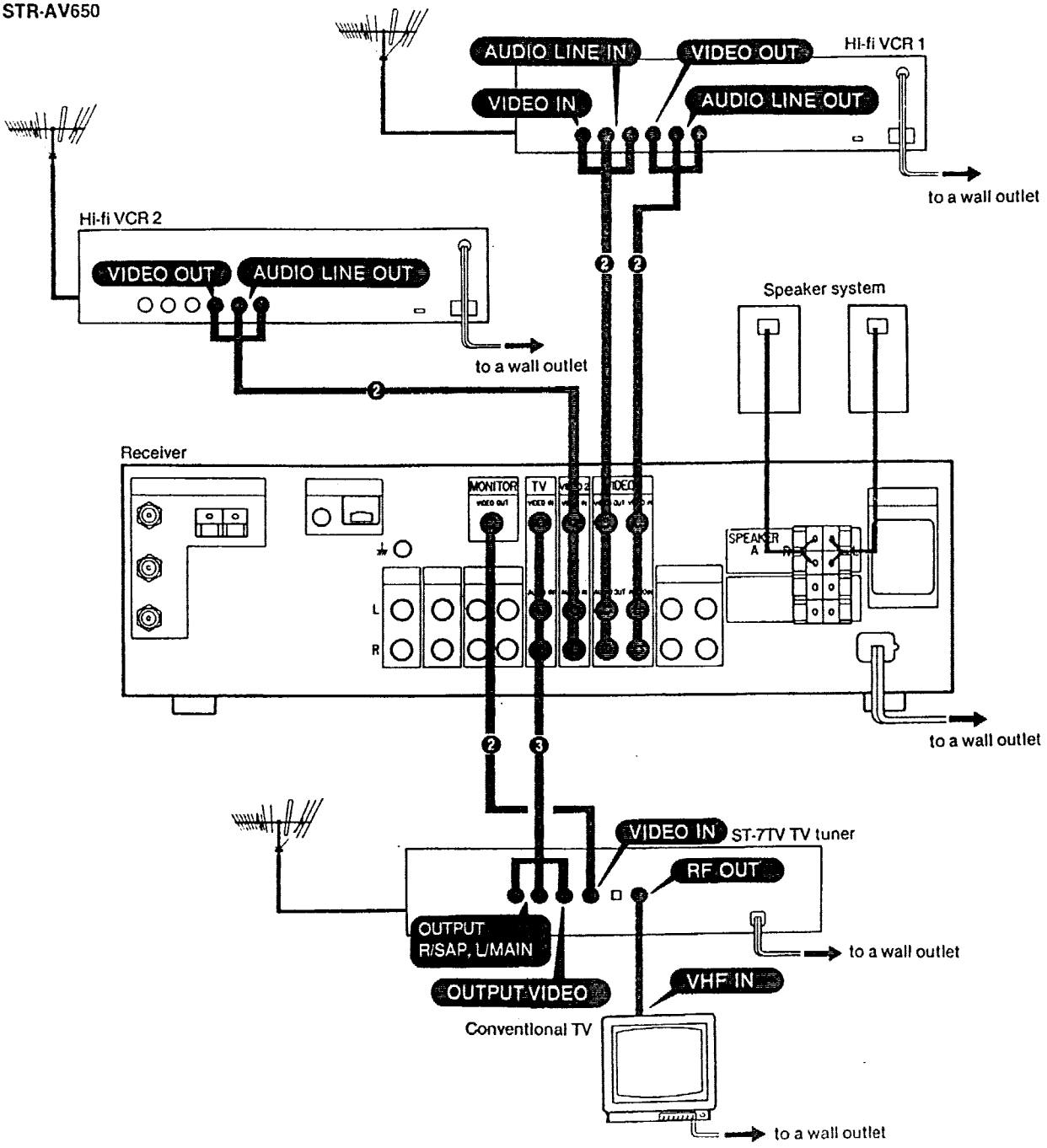


VCR/TV SYSTEM CONNECTION

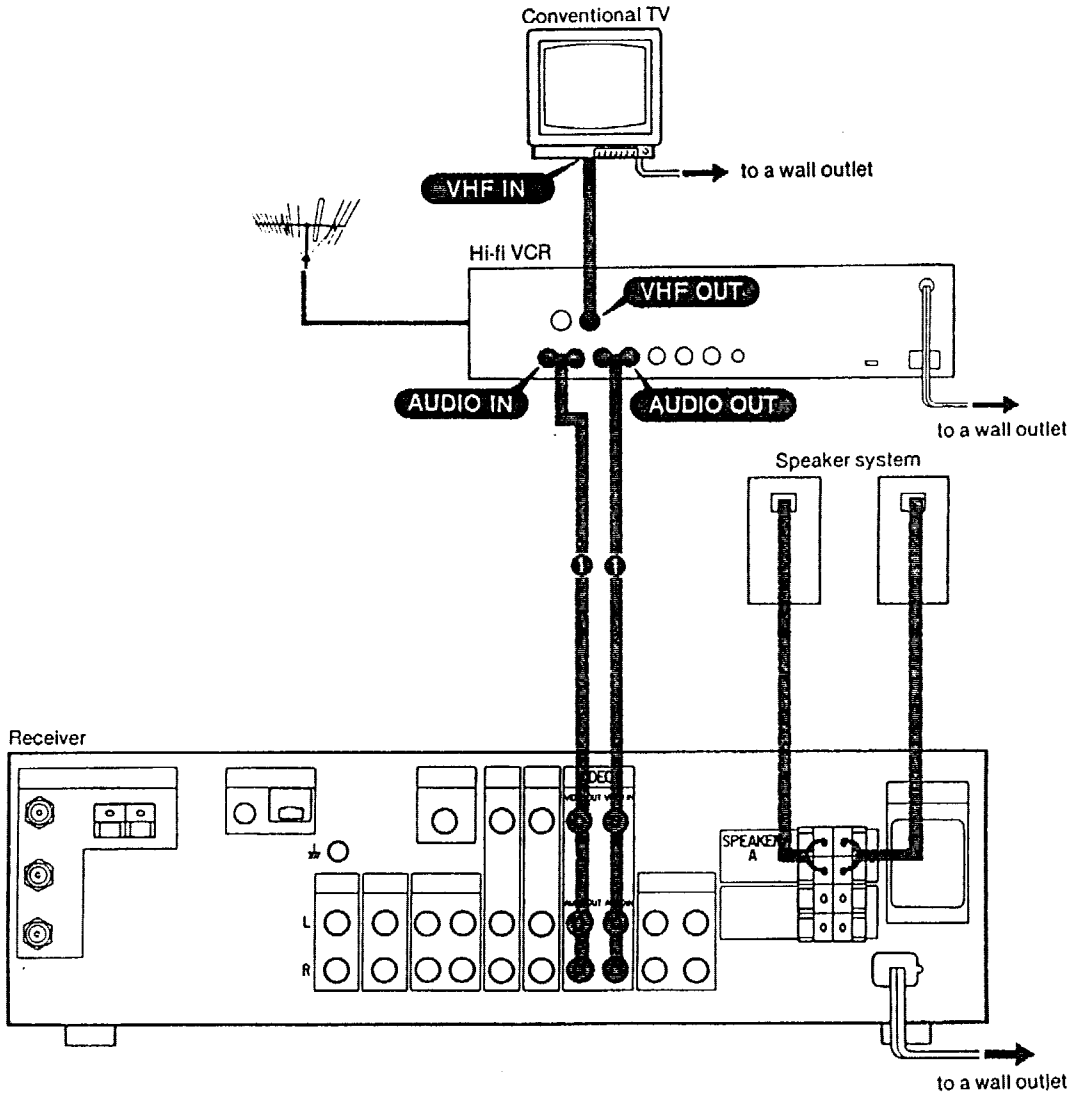
Hi-fi VCR(s) + **Conventional TV** + **TV tuner**

VCR 1 ... for recording and playback
VCR 2 ... for playback only

STR-AV650



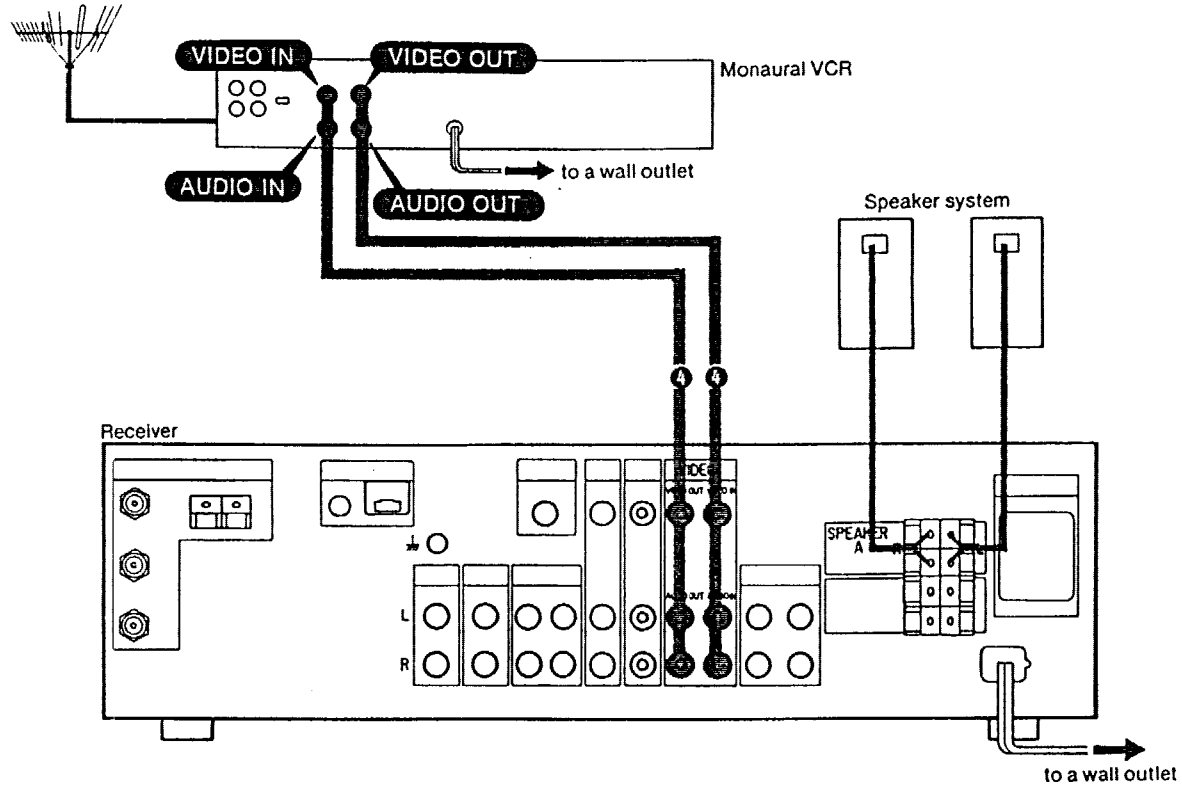
Hi-fi VCR + Conventional TV



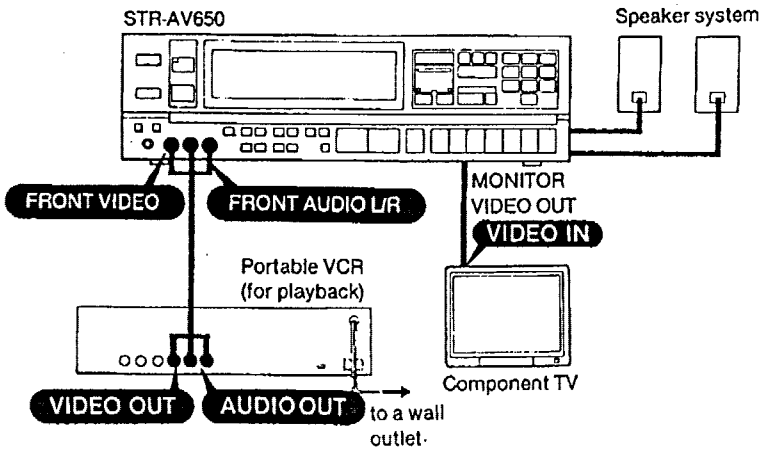
VCR/TV SYSTEM CONNECTION

Monaural VCR
For the connection of the other equipment, refer to the preceding diagrams.
Connect a **component TV to the MONITOR VIDEO OUT jack** of the receiver or a **conventional TV to the VHF OUT connector** of the VCR.

Note
If you connect a monaural VCR to the receiver and record a stereo program source, the recorded sound will be monaural, and stereo separation of the program source monitored from the speakers may be worsened.



Portable stereo VCR (STR-AV650 only)
For the connection of other equipment, refer to the preceding diagrams.



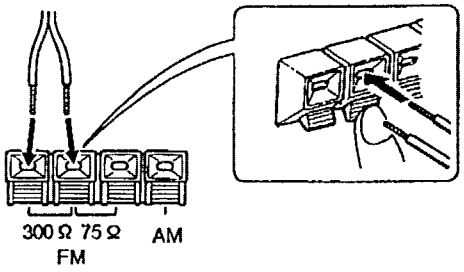
ANTENNA/CABLE CONNECTION

TO CONNECT FM ANTENNA

To get the optimum sound of FM broadcasts, install a suitable outdoor FM antenna.
The supplied ribbon antenna may be useful until you install a more suitable antenna.

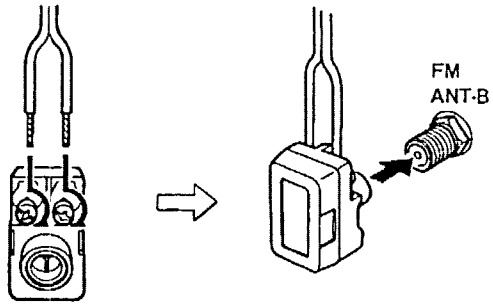
Ribbon antenna supplied (or 300-ohm twinlead) connection

STR-AV550



STR-AV650

Connect the ribbon antenna or twinlead to the supplied external antenna connector and connect it to the FM ANT-B connector.



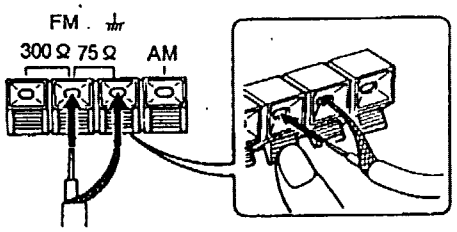
External antenna connector (supplied)

Fully extend the antenna and fasten the ends to a wall using thumbtacks or adhesive tape.

75-ohm coaxial cable connection

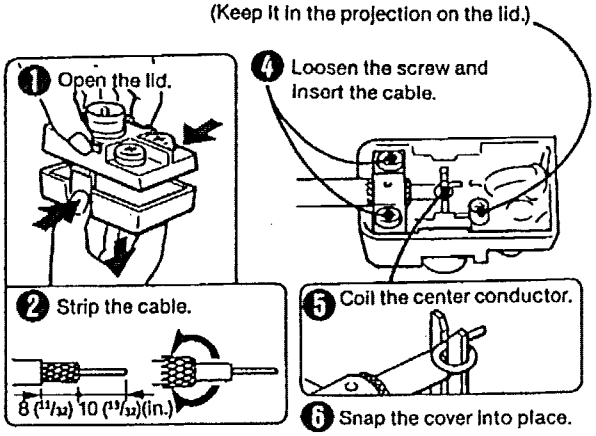
A 75-ohm coaxial cable is free from external interference, reduces noise pickup, and is the ideal transmission line for most FM installations. 3C-2V cable is recommended.

STR-AV550



STR-AV650

Connect the 75-ohm coaxial cable to the supplied antenna connector and connect it to the FM ANT-B connector.


3 Remove the ring.
(Keep it in the projection on the lid.)
1 Open the lid.
4 Loosen the screw and insert the cable.
2 Strip the cable.
8 (11/32) 10 (13/32)(in.)
5 Coil the center conductor.
6 Snap the cover into place.

Note
The supplied ribbon antenna or a standard 300-ohm twinlead is susceptible to the pickup of extraneous noise.

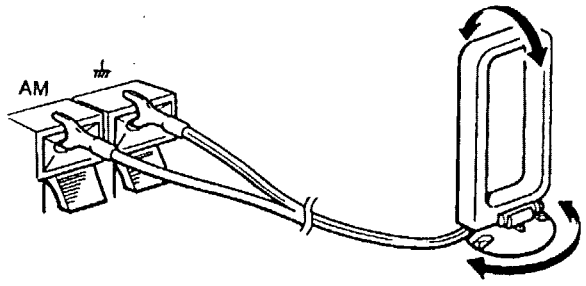
Note on FM tuner connection (STR-AV650 only)
If you have another FM tuner, connect an FM external antenna to the CATV ANT-A IN connector and connect the CATV ANT-A OUT connector to the FM antenna terminal of the other FM tuner.

Notes on the FM and TV antennas
— When the stereo receiver and video system are connected and both are in use
We recommend the use of outdoor antennas to obtain better quality picture and sound.
- Use the outdoor FM antenna for FM reception and the TV antenna for TV reception. Do not use one antenna for both.
- Use 75-ohm coaxial cables for both antennas.
- Locate the two antennas as distant as possible from each other.

If FM signals interfere with the TV picture and sound, press any FUNCTION button to change the function mode from the tuner to another.

TO CONNECT AM ANTENNA

Supplied layout-free AM external antenna
To receive AM programs, always keep the layout-free AM antenna connected to the AM external antenna terminals. Adjust the position of the antenna to obtain optimum reception.



This antenna can be placed in various places, such as on a speaker or a desk, or hung on a wall.

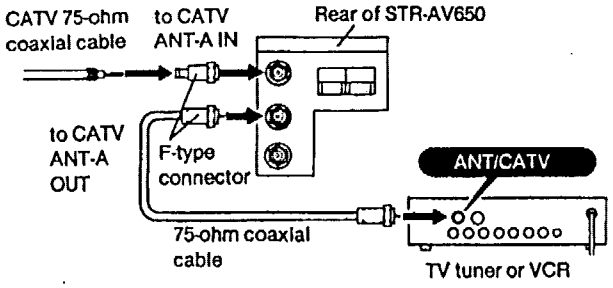
AM tuning interval
This receiver is preset to 10kHz. To use the receiver where the frequency allocation system is based on a 9kHz interval, make the following adjustment.

1 Turn off the unit by pressing the SYSTEM POWER switch.
2 Press the SYSTEM POWER switch again while pressing the "+" TUNING button.

To reset the interval to 10kHz, follow the same procedure.

TO CONNECT CATV CABLE (STR-AV650 only)

Connect the CATV 75-ohm coaxial cable to the CATV ANT-A IN connector and the CATV ANT-A OUT connector to the antenna/cable input of the TV tuner or VCR.
For connection, use a commercially available F-type connector.



Note
When the interval is changed, all preset stations and acoustic settings will be erased. After changing the interval, memorize the stations and acoustic settings again.

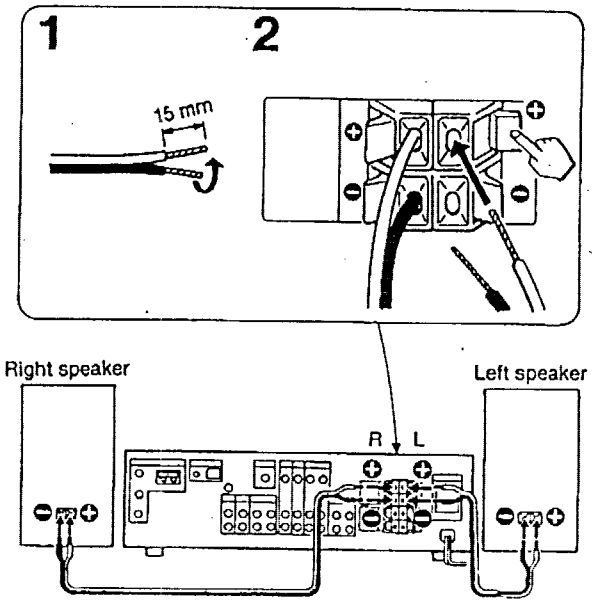
Note to CATV system installer in the U.S.A.
This reminder is provided to call the cable TV system installer's attention to Article 820-22 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

SPEAKER CONNECTION

Two speaker systems can be connected. Select the system to be used using the SPEAKERS buttons on the front panel.

Speaker impedance and power capability
This receiver is designed to work best with speakers having nominal impedance from 8 to 16 ohms at rated 55 watts (STR-AV550) and 65 watts (STR-AV650) minimum RMS per channel with an 8-ohm load from 20—20,000 Hz.

Speaker cord connection



Generally speaker cords are coded with color or mark, indicating the ⊕ ⊖ polarities. Remember the coding and prevent faulty connections.

Right speaker: to R SPEAKER connectors
Left speaker: to L SPEAKER connectors
⊕ code: for ⊕ connection
⊖ code: for ⊖ connection

POWER SOURCE CONNECTION

Connect the AC power cord of each equipment as follows so that you can turn on and off the equipments with the SYSTEM POWER switch of the receiver.

Receiver	→ **to a wall outlet**
Other equipment	→ **to the AC outlets on the receiver** or **to the AC outlets on the other audio equipment** already connected to the outlets on the receiver. Do not connect a VCR.

You cannot turn on/off a equipment connected directly to a wall outlet with the SYSTEM POWER switch of the receiver.

Caution
Be careful that the total power consumption of each equipment connected to the outlets on the receiver does not exceed 100 watts.
Do not connect electrical home appliance such as an electric iron, fan, TV, or other high-wattage equipment to these outlets.

Note on the polarity of the AC power cord plug
The plug of the AC power cord can only be inserted into the polarized AC outlet. Insert the larger plug of the cord to the negative potential of the outlet. This is to operate the receiver and other components "in phase".

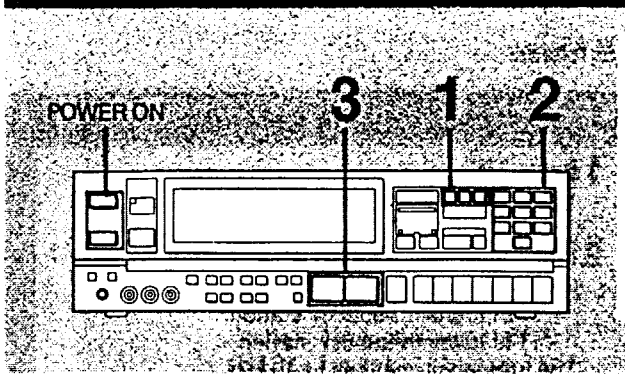
When the connection is complete, insert the plug of the AC power cord to a wall outlet, and turn on the power.

Now you can operate the unit.

TO RECEIVE FM/AM BROADCASTS

Before tuning, select the speaker system by depressing SPEAKERS button A or B.

TO TUNE IN A STATION DIRECTLY — DIRECT ACCESS TUNING



1 Select the desired band, FM (STR-AV650: FM ANT-A or FM ANT-B) or AM.
The "0" indication blinks.

2 Enter the frequency, pressing the appropriate number buttons.
The desired station is tuned in.

3 Adjust the volume.

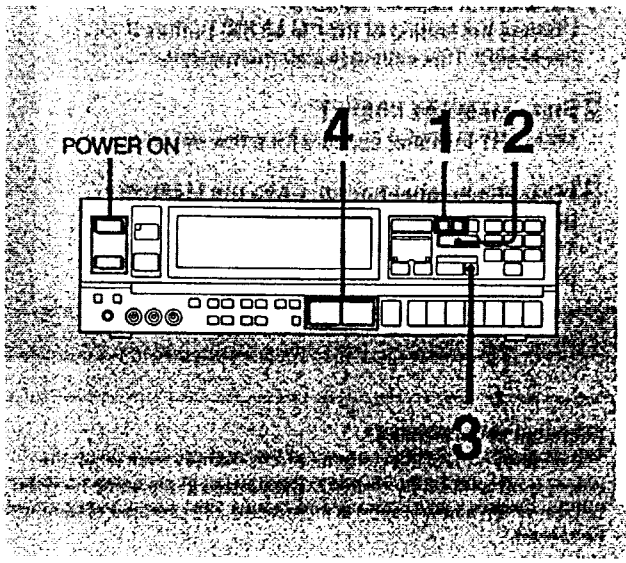
To correct the entered frequency
Press the FM (STR-AV650: FM ANT-A or FM ANT-B), or AM button again, and enter the correct number.

If the frequency figures flash in the display window
The entered number is outside the receiver's frequency range (FM: 87.5 to 108 MHz, AM: 520 to 1,610 kHz).
Press the FM (STR-AV650: FM ANT-A or FM ANT-B), or AM button again, and enter the correct number.

When entering an AM broadcast frequency
You need not enter the last digit "0". If you have changed the AM tuning interval to 9 kHz, however, enter the frequency to the last digit.

TO TUNE IN AN FM STATION AUTOMATICALLY — SWEEP TUNING

When you do not know the frequency of the FM station, proceed as follows:



1 STR-AV550: **Press FM.**
STR-AV650: **Select FM ANT-A or FM ANT-B.**
The "0" indication blinks.

2 Press TUNING.
"+": For a higher frequency station
"–": For a lower frequency station
Scanning begins and stops for 5 seconds when a station is received.

3 Press MEMORY PRESET when the desired station is tuned in.
Scanning stops.

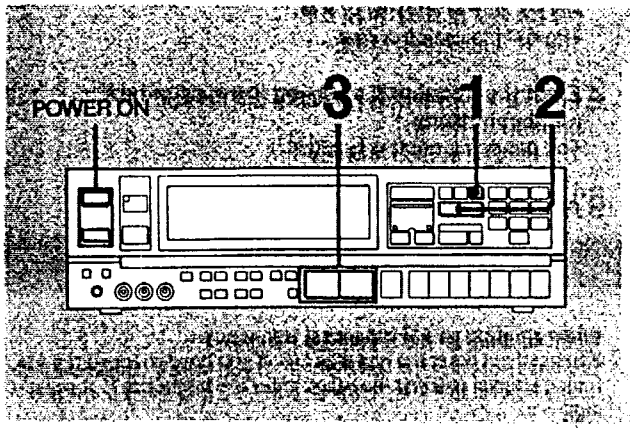
4 Adjust the volume.

Note
If the signal strength is weak and the frequency display figures will not stop at the desired frequency, adjust the antenna for optimum reception.

TO RECEIVE FM/AM BROADCASTS

TO TUNE IN AN AM STATION MANUALLY — MANUAL TUNING

When you do not know the frequency of the AM station, proceed as follows:



1 Press AM.
The "0" indication blinks.

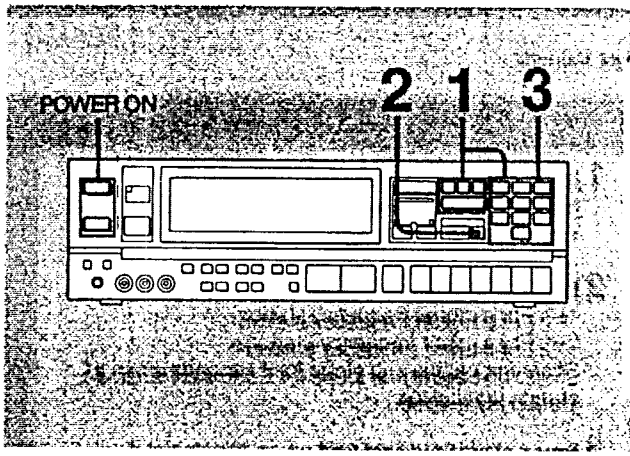
2 Press TUNING until the desired station is tuned in.
"+": For higher frequency station
"–": For lower frequency station
The frequency changes by 10 kHz.

3 Adjust the volume.

TO TUNE IN A PRESET STATION — PRESET TUNING

You can easily tune in your favorite stations by presetting them.

PRESETTING OF THE STATION
A total of 10 stations can be memorized, one to each number button, in any desired sequence. Repeat these steps for each number button.



1 Tune in the desired station.
Change the setting of the FM MODE button, if necessary. This setting is also memorized.

2 Press MEMORY PRESET.
MEMORY indicator appears for a few seconds.

3 Press the number button, while the MEMORY indicator is displayed.
The number displayed on the display window is preset.

Reception at a preset station
Select the preset station with the number buttons.
The tuned station is indicated on the display window.

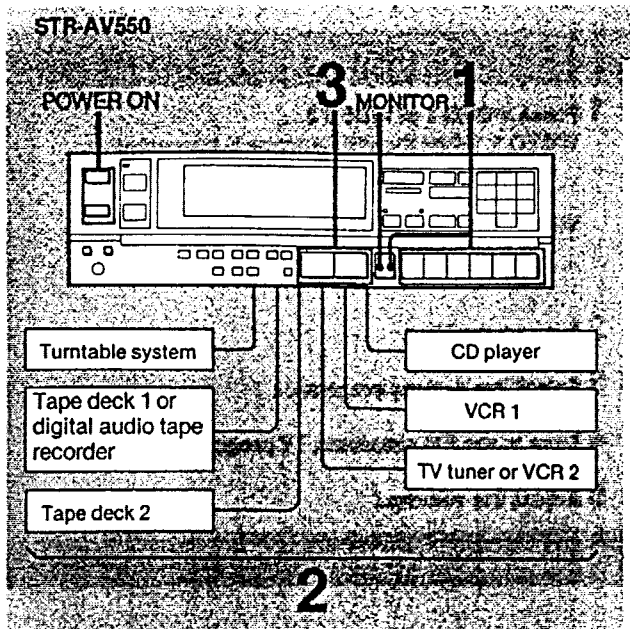
To survey the programs being broadcast on the preset stations
Press the MEMORY SCAN button.
Each station is tuned in successively for several seconds.
To stop scanning, press the appropriate number button.

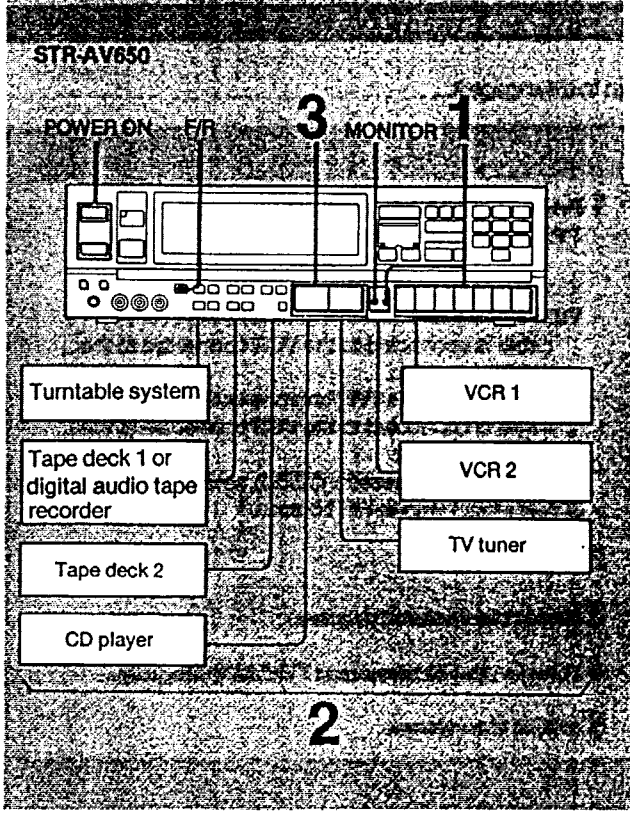
Retention of the memory
The receiver retains the contents of the memory even when the power is off until a new station is memorized in the same number button. When a new station is memorized, the previous station will be erased.

TO LISTEN TO PROGRAM SOURCES OTHER THAN BROADCASTS

Before listening, select the speaker system by depressing SPEAKERS button A or B.

If the MONITOR indicator is lit, press the TAPE 2 MONITOR button to disengage it.





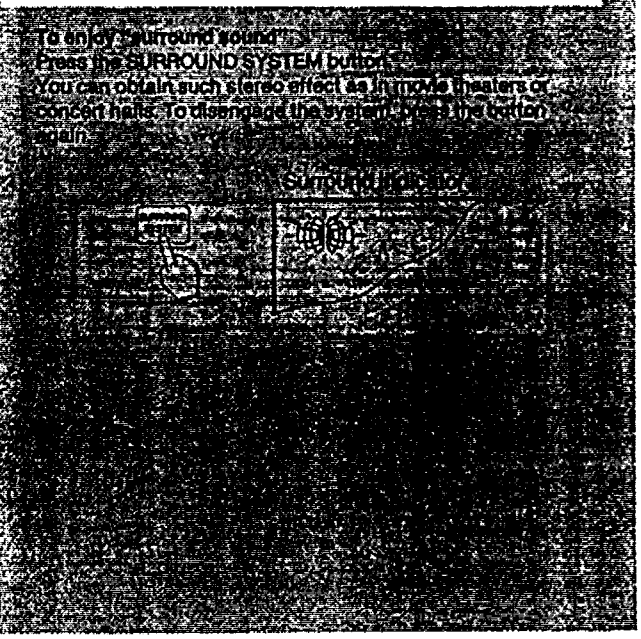
1 Select the program source.

Program source	Button to be pressed
Turntable system	**PHONO**
Compact disc or auxiliary source	**CD/AUX**
Taped programs	**TAPE 1/DAT or TAPE 2 MONITOR** according to which inputs the tape deck is connected to.
TV programs (STR-AV650 only)	**TV**
Video programs	**VIDEO 1 or VIDEO 2** according to which inputs the VCR is connected to.

On STR-AV650, when you have pressed VIDEO 2, select the front or rear input with the F/R button.

2 Start the program.

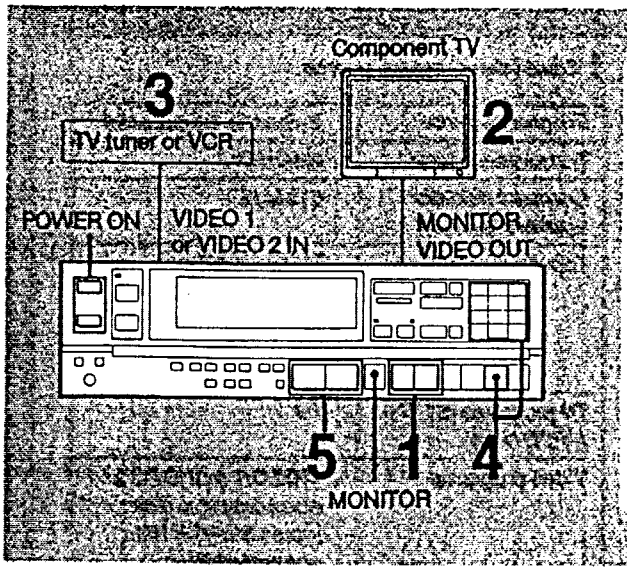
3 Adjust the volume.


To enjoy surround sound
Press the SURROUND SYSTEM button.
You can obtain such stereo effect as in movie theaters or concert halls. To disengage the system, press the button again.

TO LISTEN TO PROGRAM SOURCES OTHER THAN BROADCASTS

TO RECEIVE A TV PROGRAM WITH FM SIMULCAST (only for STR-AV550)

If the MONITOR indicator is lit, press the TAPE 2 MONITOR button to disengage it.



1 Press VIDEO 1 or VIDEO 2.
VIDEO 1: When the VHF antenna is connected to the TV tuner or VCR connected to the VIDEO 1 inputs.
VIDEO 2: When the VHF antenna is connected to the TV tuner or VCR connected to the VIDEO 2 inputs.

2 Turn on the TV.

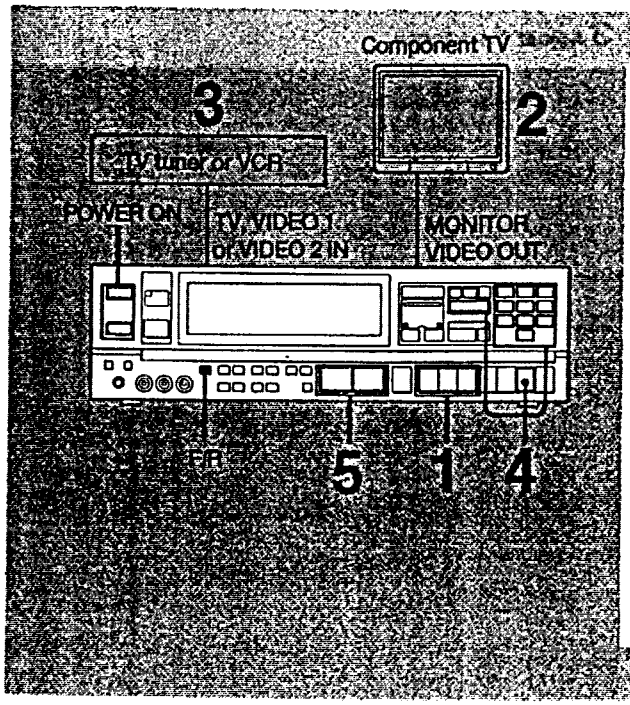
3 Select the desired program.

4 Tune in the FM simulcast TV program.

5 Adjust the volume.

TO RECEIVE A TV/CATV PROGRAM WITH FM SIMULCAST (only for STR-AV650)

If the MONITOR indicator is lit, press the TAPE 2 MONITOR button to disengage it.



1 Press TV, VIDEO 1 or VIDEO 2.
TV: When the VHF antenna or the CATV cable is connected to the TV tuner connected to the TV inputs.
VIDEO 1: When the VHF antenna or the CATV cable is connected to the VCR connected to the VIDEO 1 inputs.
VIDEO 2: When the VHF antenna or the CATV cable is connected to the VCR connected to the VIDEO 2 inputs.
When you have pressed VIDEO 2, select the front or rear input with the F/R button.

2 Turn on the TV.

3 Select the desired program.

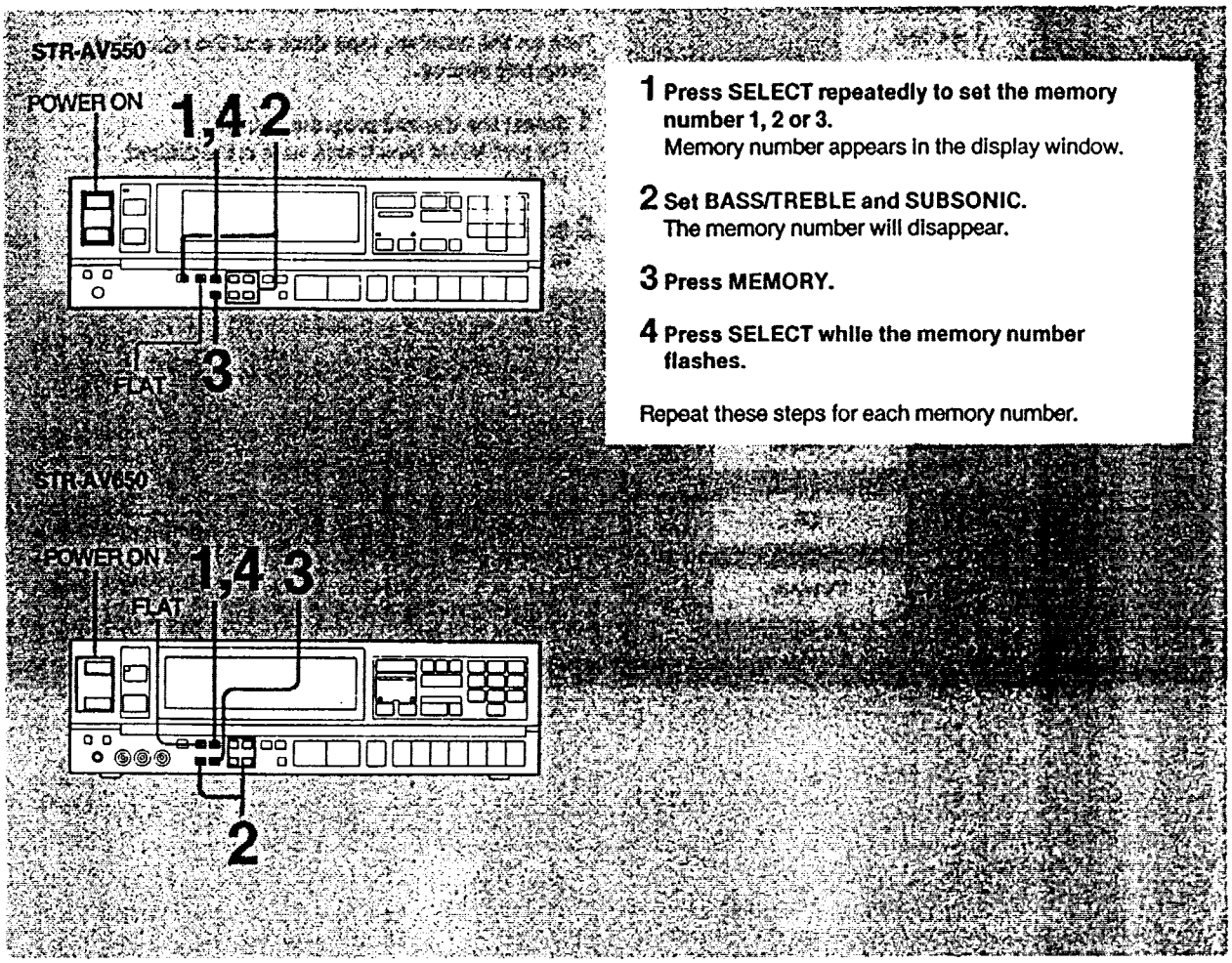
4 Tune in the FM simulcast TV/CATV program.

5 Adjust the volume.

TO MEMORIZE THE ACOUSTIC SETTINGS

PRESETTING

The receiver can store and recall three sets of three different tonal settings (bass/treble control and subsonic filter setting).



1 Press SELECT repeatedly to set the memory number 1, 2 or 3.
Memory number appears in the display window.

2 Set BASS/TREBLE and SUBSONIC.
The memory number will disappear.

3 Press MEMORY.

4 Press SELECT while the memory number flashes.

Repeat these steps for each memory number.

TO RECALL THE MEMORY

Press the SELECT button to set the desired memory number.

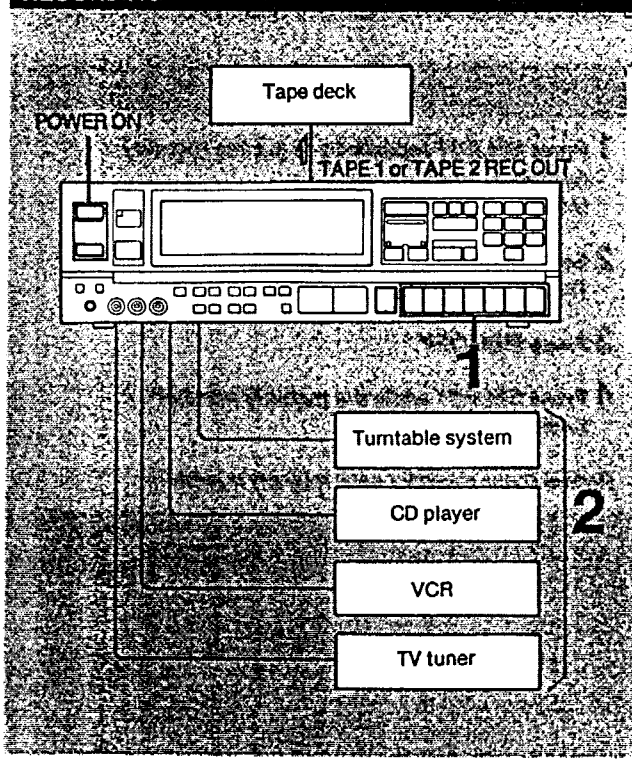
Retention of the memory
The receiver retains the contents of the memory even when the power is off until a new acoustic setting is memorized in the same memory number. When a new setting is memorized, the previous setting will be erased.

To change a part of the setting temporarily
Simply change the part of the acoustic setting as you want. To recall the original setting later, press the SELECT button of the same memory number again to resume it.

To listen to the program without any tonal adjustment
Press the FLAT button.

TO RECORD ON AN AUDIO TAPE

RECORDING

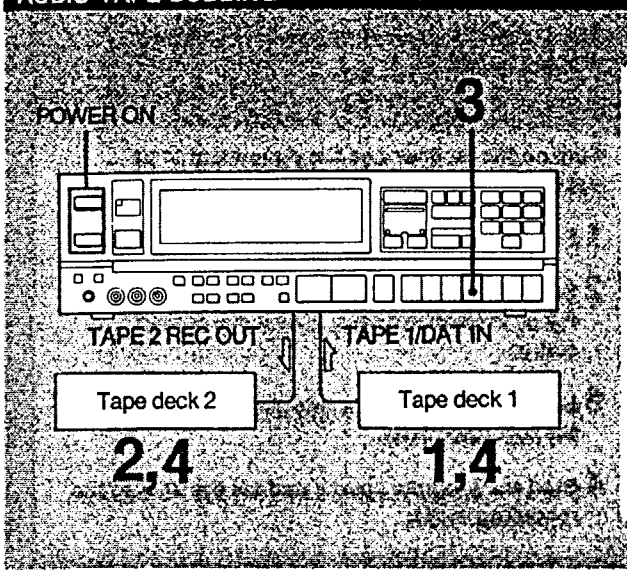


Turn on the receiver, tape deck and the recording (program) source.

1 Select the desired program source.
For an FM/AM broadcasts, tune in the desired station.

2 Start the program source and set the tape deck in the recording mode.

AUDIO TAPE DUBBING



Turn on the receiver and the connected tape decks.

1 Insert a recorded tape into the tape deck 1 (or the digital audio tape recorder).

2 Insert a blank tape into the tape deck 2 and adjust the recording level.

3 Press TAPE 1/DAT (TAPE 1→2).

4 Start recording on the tape deck 2 and playback on the tape deck 1 (or the digital audio tape recorder).
Dubbing will begin.

Note
You cannot dub an audio tape from the tape deck 2 to the tape deck 1 (or digital audio tape recorder).

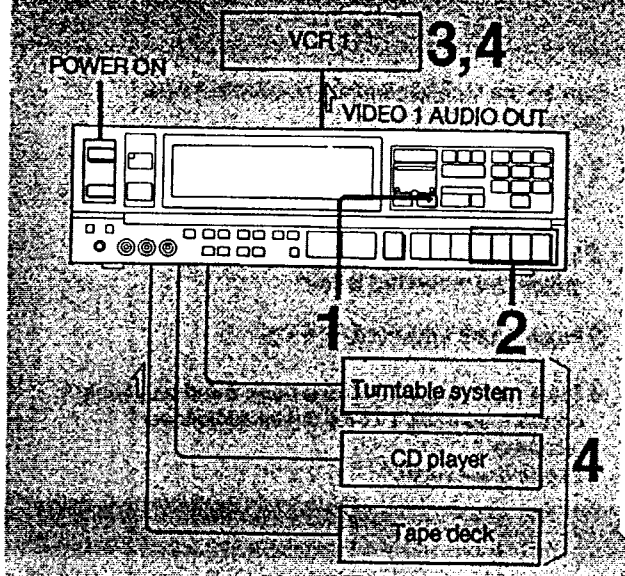
Note
The volume and tonal settings on the receiver do not have any effect on the recording.

To monitor the recorded sound
If you have connected a tape deck having separate record and playback heads to the TAPE 2 IN jacks, you can monitor the recording results. While recording or dubbing, press the TAPE 2 MONITOR button. To listen to the source sound again, press the button again.

TO RECORD ON A VCR

For operation of the VCR, refer to its instruction manual.

RECORDING AUDIO PROGRAMS



To record audio program source on a video tape, proceed as follows:

Turn on the receiver and the equipment to be used.

1 **Press EDIT AUDIO.**

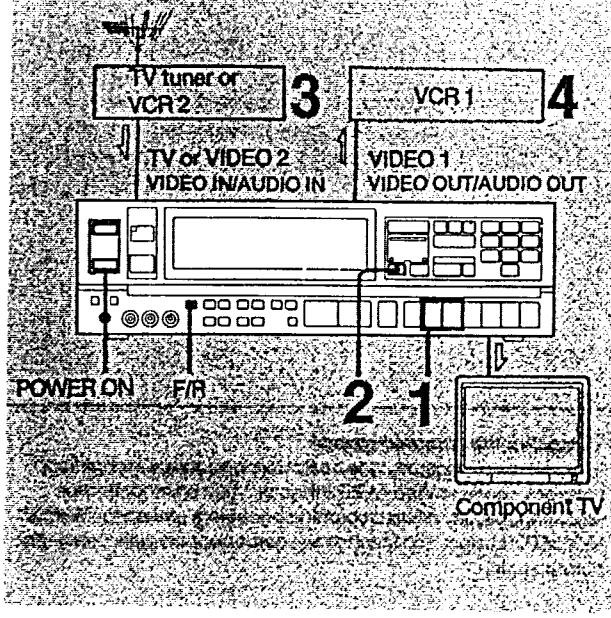
2 **Select the desired program source.**
For an FM/AM broadcast, tune in the desired station.

3 **Insert a video cassette into the VCR and adjust the recording level.**

4 **Start the program source and set the VCR to the recording mode.**

Note
You cannot record on a VCR connected to the VIDEO 2 inputs.

RECORDING TV PROGRAMS



To record the picture and the sound of a TV program, proceed as follows:

Turn on the receiver and the equipment to be used.

1 **Press TV (STR-AV650 only) or VIDEO 2.**
TV: When the VHF antenna is connected to the TV tuner connected to the TV inputs.
VIDEO 2: When the VHF antenna is connected to the VCR connected to the VIDEO 2 inputs.
On STR-AV650, if you have pressed VIDEO 2, select the front or rear input with the F/R button.

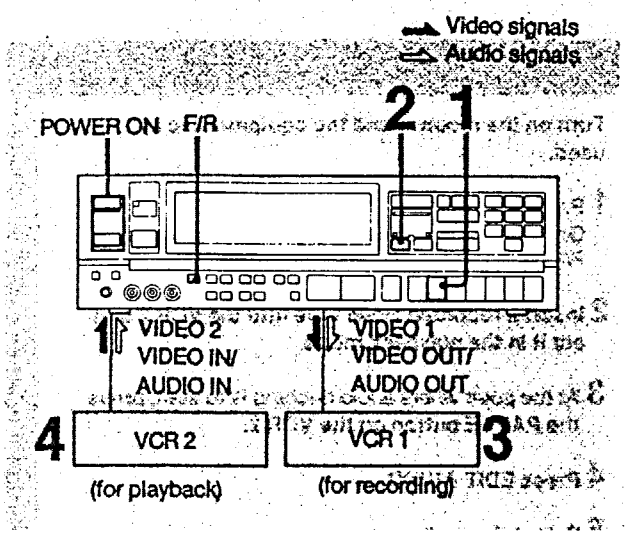
2 **Press EDIT VIDEO.**

3 **Select the desired program.**

4 **Set the VCR 1 to the recording mode.**

Note
The volume and tone settings on the receiver do not have any effect on the recording.

VIDEO TAPE EDITING



Turn on the receiver and the equipment to be used.

1 Press VIDEO 2.
On STR-AV650, select the front or rear input with F/R.

2 Press EDIT VIDEO.

3 Set the VCR 1 to the recording mode.

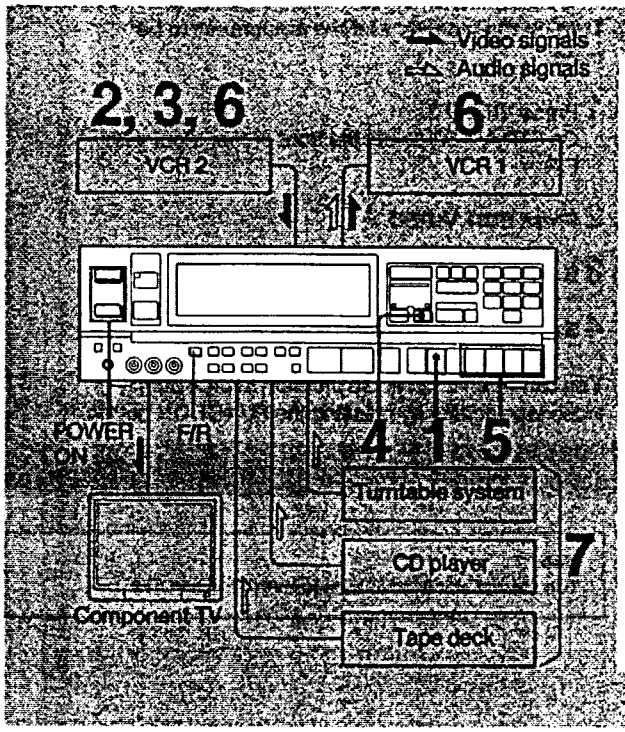
4 Set the VCR 2 to the playback mode.

You can listen to an audio program source during video tape editing by pressing the FUNCTION button.

Note
- You cannot edit a video tape from VCR 1 to VCR 2.

ADDING NEW SOUND ON A VIDEO TAPE DURING EDITING

During video tape editing, you can replace the sound previously recorded on a video tape with the desired sound from an audio source, thus making your own personalized video tape.



Turn on the receiver and the equipment to be used.

1 **Press VIDEO 2.**
On STR-AV650, select the front or rear input with F/R.

2 **Insert a recorded video tape into the VCR 2 and set it in the playback mode.**

3 At the point where audio dubbing is to start, **press the PAUSE button on the VCR 2.**

4 **Press EDIT AUDIO.**

5 **Select the audio program source.**

6 **Release the pause mode of the VCR 2 and set the VCR 1 to the recording mode.**

7 **Start playing the selected program source.**

SPECIFICATIONS

AUDIO OUTPUT AND TOTAL HARMONIC DISTORTION:

With 8-ohm load, both channels driven, from 20—20,000 Hz, rated 55 watts (STR-AV550) or 65 watts (STR-AV650) per channel minimum RMS power, with no more than 0.03% (STR-AV550) or 0.008% (STR-AV650) total harmonic distortion from 250 milliwatts to rated output.

Amplifier section

Dynamic power output
STR-AV550:
70 watts + 70 watts (8 ohms, IHF)
90 watts + 90 watts (6 ohms, IHF)
100 watts + 100 watts (4 ohms, IHF)
STR-AV650:
90 watts + 90 watts (8 ohms, at 1 kHz IHF)
110 watts + 110 watts (6 ohms, at 1 kHz IHF)
120 watts + 120 watts (4 ohms, at 1 kHz IHF)

Harmonic distortion STR-AV550: Less than 0.03% at rated output
STR-AV650: Less than 0.008% at rated output

Intermodulation (IM) distortion
(60 Hz : 7kHz = 4 : 1) STR-AV550: Less than 0.03% at rated output
STR-AV650: Less than 0.008% at rated output

Frequency response
PHONO: RIAA equalization curve ±0.5 dB
CD/AUX, VIDEO 1, 2 (audio), TV (audio), TAPE 1/DAT, TAPE 2: 10 Hz – 70 kHz $\pm^{0}_{1}$ dB

Residual noise Less than 70μV (8 ohms, network A)
Damping factor 40 (8 ohms, 1 kHz)
Inputs

	Sensitivity	Impedance	S/N (weighting network, input level)
PHONO	2.5 mV	50 kilohms	77 dB 75 dB* (A, 2.5 mV)
CD/AUX VIDEO 1, 2 (audio) TAPE 1/DAT, TAPE 2 TV (audio, STR-AV650 only)	150 mV	50 kilohms	100 dB 80 dB* (A, 150 mV)

*78 IHF

Outputs
REC OUT 1, 2,
VIDEO 1 AUDIO OUT
Voltage 150 mV
Impedance 10 k ohms
SPEAKER A, B
Accepts speakers of 8 – 16 ohms.
HEADPHONES
Accepts low and high impedance headphones.

Tone controls
BASS
±8 dB at 100 Hz
TREBLE
±8 dB at 10 kHz

Subsonic filter 6 dB/oct. attenuation below 15 Hz

Video section

Inputs TV (STR-AV650 only), VIDEO 1, 2: 1 Vp-p, 75 ohms unbalanced
Outputs VIDEO 1, MONITOR VIDEO OUT: 1 Vp-p
75 ohms unbalanced

FM tuner section

Tuning range 87.5 MHz – 108 MHz
Antenna terminals STR-AV550:
300 ohms, balanced
75 ohms, unbalanced
STR-AV650:
75 ohms, unbalanced (2)
Intermediate frequency
10.7 MHz
Sensitivity at 50 dB quieting
17.3 dBf, 4 μV (mono)
38.3 dBf, 45 μV (stereo)
Usable sensitivity 11.2 dBf, 2 μV (IHF)
Signal-to-noise ratio 80 dB (mono), 75 dB (stereo)
Harmonic distortion 0.15% (mono), 0.25% (stereo) at 1 kHz
IM distortion 0.15% (mono), 0.25% (stereo)
Separation 45 dB at 1 kHz
Frequency response
30 Hz – 15 kHz $\pm^{0.5}_{2.0}$ dB
Selectivity 60 dB at 400 kHz
Capture ratio 1.5 dB
AM suppression ratio
54 dB
Image response ration
45 dB
IF response ratio 90 dB
Spurious response ratio
70 dB
RF intermodulation 60 dB
Auto-tuning threshold
Approx. 30 dBf

AM tuner section

Tuning range 530 – 1,610 kHz (with the AM tuning interval set at 10 kHz)
531 – 1,602 kHz (with the AM tuning interval set at 9 kHz)
Antenna Layout-free antenna
External antenna terminal
Intermediate frequency
450 kHz
Usable sensitivity 50 dB/m, layout-free antenna (at 1,000 kHz)
100 μV, external antenna terminal (at 1,000 kHz)
Signal-to-noise ratio 54 dB (at 50 mV/m)
Harmonic distortion 0.3% (at 50 mV/m, 400 Hz)
Selectivity 40 dB (10 kHz)

SPECIFICATIONS

General

System
Tuner section: PLL quartz-locked digital synthesizer system
Preamplifier section: low-noise NF type equalizer amp
Power amplifier section: quasi-complementary SEPP

Power requirements
120 V AC, 60 Hz

Power consumption
STR-AV550: 110 watts (USA model)
180 watts (Canada model)
STR-AV650: 120 watts (USA model)
195 watts (Canada model)

AC outlet
Two switched (100 watts max.)

Dimensions
STR-AV550:
Approx. 430 × 130 × 280 mm (w/h/d)
(17 × 5 1/8 × 11 inches)
including projecting parts and controls
STR-AV650:
Approx. 430 × 130 × 285 mm (w/h/d)
(17 × 5 1/8 × 11 1/8 inches)
including projecting parts and controls

Weight
STR-AV550:
Approx. 7.1 kg (15 lbs 11 oz) net
Approx. 8.4 kg (18 lbs 9 oz) in shipping carton
STR-AV650:
Approx. 7.6 kg (16 lbs 13 oz) net
Approx. 8.9 kg (19 lbs 10 oz) in shipping carton

Accessories supplied
FM ribbon antenna (1)
AM layout-free antenna (1)
External antenna connector (1, STR-AV650 only)
Remote commander (1)
Sony battery SUM-3 (NS) (2) (for the remote commander)

Design and specifications subject to change without notice.

TROUBLESHOOTING

Before proceeding through the checklist below, examine the connections and the procedures outlined in the manual.

Should any problem persist after you have checked the following items, consult your nearest Sony dealer.

	PROBLEM	CAUSE	SOLUTION
Broadcast program	STEREO indicator flickers or does not appear when receiving stereo programs.	A very weak FM station or a noisy FM program is received.	Adjust the antenna or connect an external FM antenna.
			Press the FM MODE button to disengage the stereo mode.
	The figures in the display window do not stop at the desired station during sweep tuning.	The signal strength is too weak for sweep tuning.	Adjust the antenna.
			Tune in the station with the direct access tuning system. (See page 21.)
	Stations cannot be tuned in correctly when the number button is pressed.	The frequency has not been memorized correctly.	Memorize the frequency correctly. (See page 22.)
	AM stations cannot be tuned in.	The AM tuning interval is set incorrectly.	Change the tuning interval according to the AM frequency allocation system of your country. (See page 19.)
Video program	Picture does not appear.	VCR, TV tuner or TV connection is not correct.	Connect the equipment correctly.
		The function switch on the VCR is not set correctly.	Set the switch appropriately.
		The TV is not turned on.	Turn the TV on.

	PROBLEM	CAUSE	SOLUTION
Amplifier	Sound is not heard.	The speaker or program source equipment is not connected correctly.	Connect the equipment correctly.
		The SPEAKERS selectors are not set correctly.	Set the selectors correctly. (See page 5.)
		The MONITOR button has been pressed for a program source other than tape deck 2.	Press to disengage it.
		The correct FUNCTION button is not pressed.	Press the correct FUNCTION button.
		The function switch on the VCR is not set correctly.	Set the switch appropriately.
		The volume is set to minimum.	Increase the volume.
	One channel does not transmit audio, or the volume from the left and right speakers is unbalanced.	The BALANCE control buttons are not set appropriately.	Adjust the BALANCE control buttons.
		The speaker or program source is not connected correctly.	Connect the equipment correctly.
	There is an abrupt loss of sound from one or both of the speakers, and the PROTECTOR indication flickers in the display window.	A short-circuit problem activates the protective circuit.	Turn off the receiver, eliminate the short-circuit problem and turn on the power again. If there is no short-circuit, consult your nearest Sony dealer.
	Sound transmitted from the speakers is reversed.	The speakers are not connected correctly.	Connect the right speaker to the R SPEAKER terminals and the left speaker to the L SPEAKER terminals.
	There is lack of bass sound or the instrument position is obscure.	The speaker is connected with the polarities reversed.	Connect the speaker with the correct ⊕ ⊖ polarities.
	Severe hum or noise is heard.	The connecting cords are not of shielded type.	Use shielded type cords.
		A transformer, motor, TV or fluorescent light affects the connecting cord.	Place the connecting cords in a location away from a transformer or motor, and at least 3 meters (10 feet) from a TV set or a fluorescent light.
		The audio components are too close to a TV set.	If both are used at the same time, separate the TV from the audio components.
		The receiver is not grounded.	Connect the ground wire to the antenna ground terminal.
		The connections are loose.	Make secure connections.
		The plugs and jacks are dirty.	Wipe the plugs and jacks with a cloth lightly dampened with alcohol.
	The Remote Commander does not operate.	The batteries are exhausted.	Replace the batteries with new ones.
		The MAIN POWER switch on the receiver is not depressed.	Depress the MAIN POWER switch.

QUICK REFERENCE

VIDEO OPERATION

The following operations are possible when the stereo receiver is connected to the equipment indicated in the connection diagram on page 11 to 16.
They may not be possible, depending on your video system.

STR-AV550

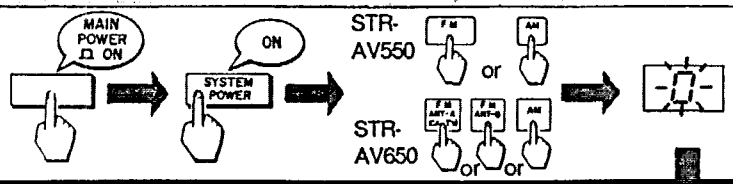
Equipment to be used / Operation	Stereo receiver			TV tuner	Color monitor	VCR
	FUNCTION button or MONITOR button	**EDIT VIDEO button**	**EDIT AUDIO button**			
To view a VCR playback	VIDEO 1	Release	Release	OFF	ON	Playback mode
To view a TV program through the TV tuner	VIDEO 2	Release	Release	Tune in a TV program.	ON	OFF
To record a TV program	VIDEO 1	Release	Release	OFF	ON	Tune in a TV program and record it.
	VIDEO 2	Press	Release	Tune in a TV program.	ON	Set the input selector of the VCR to LINE and record the program.
To view one TV program while recording another	VIDEO 2	Release	Release	Tune in a TV program.	ON	Tune in the other TV program and record it.
To receive an FM simulcast TV program	VIDEO 1 ↓ FM/AM	Release	Release	OFF	ON	Tune in a TV program.
	VIDEO 2 ↓ FM/AM	Release	Release	Tune in a TV program.	ON	OFF
To record an FM simulcast TV program	VIDEO 2 ↓ FM/AM	Release	Press	Tune in a TV program.	ON	Set the input selector of the VCR to LINE and record the program.
To record audio on VCR	Select the desired program source.	Release	Press	OFF	OFF	Set the input selector of the VCR to LINE and record the program.

STR-AV650

Equipment to be used / Operation	Stereo receiver			Color monitor	TV tuner	VCR 1	VCR 2
	FUNCTION button and F/R button	EDIT VIDEO button	EDIT AUDIO button				
To view a VCR 1 playback	VIDEO 1	Release	Release	ON	OFF	Playback	OFF
To view a VCR 2 playback	VIDEO 2 ↓ F/R to REAR	Release	Release	ON	OFF	OFF	Playback
To view a TV program from the TV tuner	TV	Release	Release	ON	Tune in a TV program.	OFF	OFF
To record a TV program	VIDEO 1	Release	Release	ON	OFF	Tune in a TV program and record it.	OFF
	TV	Press	Release	ON	Tune in a TV program.	Set the input selector to LINE and record the program.	OFF
To view one TV program while recording another	TV	Release	Release	ON	Tune in a TV program.	Tune in the other TV program and record it.	OFF
To receive an FM simulcast TV program	TV ↓ FM/AM	Release	Release	ON	Tune in a TV program.	OFF	OFF
	VIDEO 1 ↓ FM/AM	Release	Release	ON	OFF	Tune in a TV program.	OFF
To record an FM simulcast TV program	TV ↓ FM/AM	Release	Press	ON	Tune in a TV program.	Set the input selector to LINE and record the program.	OFF
To record audio on a VCR	Select the desired audio source.	Release	Press	OFF	OFF	Set the input selector to LINE and record the program.	OFF
To edit a video tape	VIDEO 2 ↓ F/R to REAR	Press	Release	ON	OFF	Set the input selector to LINE and record the program.	Playback
To add new sound during video tape editing	VIDEO 2 ↓ F/R to REAR ↓ Select the audio source to be added.	Release	Press	ON	OFF	Set the input selector to LINE and record the program.	Playback

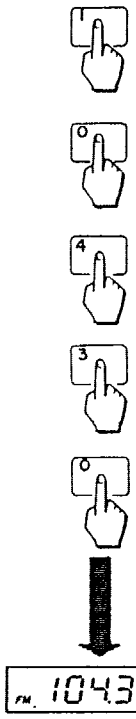
QUICK REFERENCE

BROADCAST RECEPTION



Direct access tuning

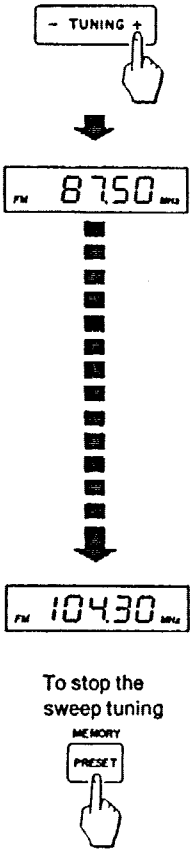
FM 104.30 MHz



FM 104.30 MHz

Sweep tuning (FM)

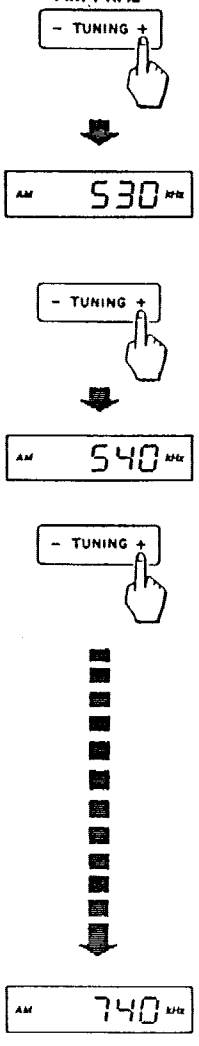
FM ? MHz



To stop the sweep tuning

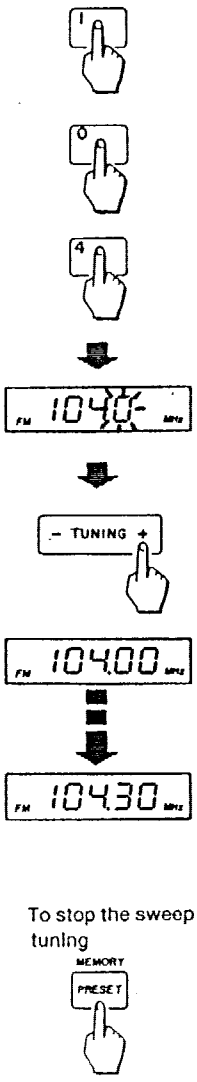
Manual tuning (AM)

AM ? kHz



Direct access and sweep tuning (FM)

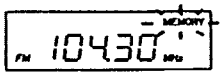
FM ? MHz



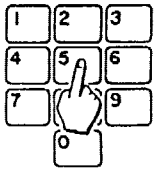
To stop the sweep tuning

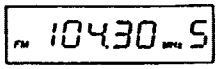
Memory presetting

Tune in the desired station.

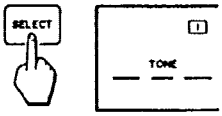


While "MEMORY" is displayed

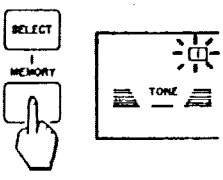




ACOUSTIC PRESETTING



Adjust the tonal quality to your preference.



While the acoustic memory number flashes

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